

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

Reserve
aS259
.K3

RECOMMENDED ORGANIZATION
and
PROPOSED ENABLING LEGISLATION
for an
AGRICULTURAL RESEARCH ADMINISTRATION
and
COORDINATION AGENCY
in
TURKEY

By

Adem Karaelmas
Ministry of Agriculture
Ankara, Turkey

Turhan Atay
Ministry of Agriculture
Experimental Station
Eskisehir, Turkey

and

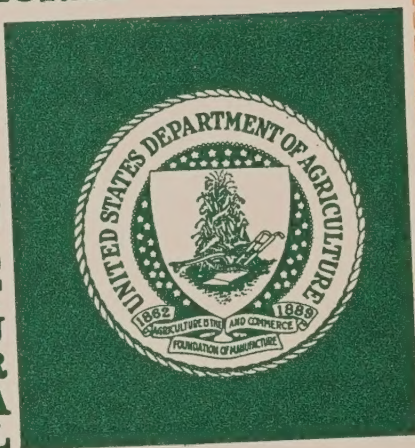
Charles G. Grey
Cooperative State Experiment Station Service
U. S. Department of Agriculture
Consultant

Washington, D. C.
December 15, 1962

AD-33 Bookplate
(1-63)

NATIONAL

**A
G
R
I
C
U
L
T
U
R
A
L**



LIBRARY

Washington, D. C.
December 15, 1962

The Honorable Mehmet Izmen
Minister of Agriculture
Ankara, Turkey

The Honorable Stuart H. Van Dyke
Director, USOM/T
Ankara, Turkey

We are submitting herewith a report relative to our study of Agricultural Research Organizational Systems in the United States of America. Certain recommendations and proposed enabling legislation are contained therein for your consideration in developing a more effective organization for the administration and coordination of agricultural and related research in Turkey.

This report is in response to a joint request of The Ministry of Agriculture and the U. S. Operations Mission dated March 31, 1961. It is based on personal observations and information gathered during a 12-month period, details of which are presented therein. Officials of the Agency for International Development and U. S. Department of Agriculture and State Departments of Agriculture have been most cooperative and helpful. This is also true of the State Experiment Stations involved in our tour of duty.

The report in some respects is a follow through to that of Dr. Grey's written in 1960. He and his associates in Cooperative State Experiment Station Service have assisted us throughout the study. He has further helped in preparation of the report and given his permission to have his name appended as Consultant.

May we here acknowledge our great appreciation for the patient assistance and advice of so many who willingly took part in our study program.

Respectfully yours,

Adem Karaelmas
Turhan A. Atay

U. S. DEPT. OF AGRICULTURE
NATIONAL AGRICULTURAL LIBRARY

MAY 18 1977

CATALOGING - PREP.

FOREWORD

This report is the result of a study of Agricultural Research Administration in the U.S.A. under the Agency International Development Technical Assistance Program, PIO 277-14-10102 and 10103 during the period of December 25, 1961-December 15, 1962.

We have been given an opportunity to work with the staffs of major services and administrative agencies of USDA to get basic information about the establishment and functions of these agencies and services, specifically regarding research activities. We spent considerable time with the staff of Cooperative State Experiment Station Service, Agricultural Research Service, Economic Research Service, Agricultural Marketing Service, field stations, and laboratories with several State Agricultural Experiment Stations and State Extension Services. We have talked with Administrators, Division Directors, Branch Chiefs, Section Heads of USDA and also with the Deans of Agricultural Colleges, Experiment Station Directors, Extension Service Directors, Department Heads, Research workers, county agents and American farmers. All of them were interested and helpful and have provided needed materials and information related to the purpose of our study.

We would also like to express our gratitude to Mr. Elmer Mostow, Office of the General Counsel, for his understanding assistance and preparation of the Proposed Enabling Legislation presented herein and to Mr. Frank J. Crowne, Management Research and Organization Division, ARS, for his assistance. Particularly do we wish to thank Dr. Carl F. Sierk of the Cooperative State Experiment Station Service, Mr. Howard F. Allard of the Agricultural Research Service and Mr. R. J. Silkett of the Foreign Agricultural Service for their assistance in planning and arranging our program and enabling adjustments in the prepared program to better suit requirements of our study. Dr. Charles G. Grey was absent due to illness during the early part of our visit so that lacking the help of these gentlemen our program would undoubtedly have suffered.

This report is the result of a study of Agricultural Research Administration in the U.S.A. under the Agency International Development Technical Assistance Program, 1951-1952 and 1953 during the period of December 22, 1951-December 15, 1953.

C O N T E N T S

PART I

We have been given an opportunity to work with the staff of major services and administrative agencies of USDA to get basic information about the establishment and functions of these agencies and services, especially regarding research activities.

INTRODUCTION

STUDY PROGRAM

USDA - A BRIEF REVIEW

Overall organization and functions.

Agencies, Groupings, Establishment and Functions:

A. Foreign Agricultural Service

B. Federal-state Relations;

1. Agricultural Research Service

2. Cooperative State Experiment Station Service

3. Federal Extension Service

C. Marketing and Stabilization;

1. Agricultural Marketing Service

2. Agricultural Stabilization and Conservation Service

3. Commodity Credit Corporation

4. Commodity Exchange Authority

5. Federal Crop Insurance Corporation

D. Rural Development and Conservations;

1. Farmer Cooperative Service
2. The Farmers Home Administration
3. Forest Service
4. Rural Areas Development
5. Rural Electrification Administration
6. Soil Conservation Service

E. Agricultural Economics;

1. Economic Research Service
2. Statistical Reporting Service

F. Departmental Administration;

1. Office of Budget and Finance
2. Office of Hearing Examiners
3. Office of Information
4. Office of Management Appraisal and Systems Development
5. National Agricultural Library
6. Office of Personnel
7. Office of Plant and Operations

G. Office of The General Counsel

H. Inspector General

Research Coordination

STATE AGRICULTURAL EXPERIMENT STATIONS

- A. Establishment, functions, working relations, financing, programs and information
- B. Brief Review of Stations Studied;
 - 1. Florida
 - 2. Pennsylvania
 - 3. Minnesota
 - 4. Virginia
 - 5. New York
 - 6. Nebraska

PART II

POSSIBLE ORGANIZATIONAL STRUCTURES FOR AGRICULTURAL RESEARCH ADMINISTRATION AND COORDINATION IN TURKEY.

Plan #1

Establishment of an Independent Agricultural Research Organization within the Ministry of Agriculture.

Plan #2

Reorganization of General Agricultural Directorate of the Ministry of Agriculture.

Plan #3

Creation of a Central Office for Planning and Coordination of Agricultural Research.

Plan #4

Establishment of an Agency for Agricultural Research Administration and Coordination within the Ministry of Agriculture.

RECOMMENDATIONS

PROPOSED ENABLING LEGISLATION

PROPOSED ORGANIZATIONAL STRUCTURE

(Details of Organization, Functions and Activities)

REFERENCES

APPENDIX

PART I

INTRODUCTION

The main functions of the Ministry of Agriculture in Turkey are: Research, Extension, Regulatory and Operational work.

Agricultural Research is under the responsibility of the following Government Agencies:

- General Directorate of Agriculture, Ministry of Agriculture.
- General Directorate of Soil Conservation and Farm Irrigation, Ministry of Agriculture.
- General Directorate of Plant Protection and Quarantine, Ministry of Agriculture.
- General Directorate of Veterinary Works, Ministry of Agriculture.
- General Directorate of Forestry, Ministry of Agriculture.
- General Directorate of Meteorology, Ministry of Agriculture.
- Cotton Directorate, Ministry of Agriculture.
- Faculty of Agriculture, Ankara University.
- Faculty of Veterinary, Ankara University.
- Middle East University, Ankara.
- Faculty of Agriculture, Ege University, Izmir.
- Faculty of Agriculture, Ataturk University, Erzurum.
- Faculty of Forestry, Istanbul University.
- Research farms of sugar factories, Ministry of Industry.
- Tobacco investigations (production and Utilization), Ministry of Monopolies.
- State Hydraulic Works, Ministry of Public Works.
- Soil Production Office, Ministry of Commerce.

The organizational arrangements for the coordination of agricultural research is extremely weak. There is no central body for such coordination. The administrative supervision of agricultural research is the responsibility of the several sections of the separate Directorates in The Ministry of Agriculture.

At present there are approximately 80 agricultural institutions, field experimental stations and research laboratories developed for specific crops or purposes in over 30 locations. Each field station laboratory and Institute has its own program and works independently. Each one of them has a Director and a Management Office, permanent research workers, aids and temporary personnel. Each is equipped with tractors, machinery and equipment. The present pattern involves control by the Ministry of Agriculture but with subject-matter sections of the Directorates responsible for research and other functions. The present administrative structure is not adequate for close cooperation and coordination and for the most effective use of results. There is no proper integration of research, extension and teaching. The Ministry of Agriculture badly needs a central

point of Administration and Coordination. This will make possible the best use of the limited number of technical personnel available for research teaching and extension. This also will insure continued close, constant and friendly relations between research and extension which is so absolutely essential for effective and speedy communication of useful information to the farmers. Also, it will help to bring local agricultural problems to the early attention of the research workers.

The Ministry of Agriculture and other interested people and organizations of the country have been concerned for some years with the need for a national effort to improve and sustain progress in agriculture. Observers from abroad are agreed that the potential for agricultural development in Turkey is very promising, and that there is much that may be done through research, extension and education to speed its development. Much agricultural information which may be applicable to Turkish needs is already in existence throughout the world. Such information, however, may well demand a major portion of research time and effort of many technical people in the field to critically evaluate its use under varied conditions of climate, topography, soils and moisture of Turkey.

In an end-of-trip interview, July 7, 1959, Mr. Rifat Gerek answered the question: What particular purpose did his government have in sending him here (U.S.A.) to study agricultural research, as follows:

"Through studying agricultural research organizations and administration in the United States, my Government expected me to get some ideas on research and extension and ways and means by which coordination and cooperation among various agencies within the government can be achieved."

"In Turkey we started in 1926 to establish agricultural research institutions for different purposes and regions; all of them have connections with the Ministry of Agriculture but there is no close cooperation between those research institutions."

He voiced a hope that eventually there would be established a Central Office for Research in Turkey. Mr. Gerek mentioned further:

"We have passed the preliminary stage and established an advisory committee on research in Turkey and this committee is training to organize agricultural research."

Some months later, February 3, 1960, Wilbur V. Harlan devoted a section of his report to the Agricultural Research Organization in Turkey. He indicated several problems such as considerable duplication of effort, unnecessary overhead expenses and almost total lack of coordination, cooperation and standardization. He mentioned efforts exerted during recent years by a national committee representing the majority of the agricultural research groups in an attempt to correct some of the problems; as he states: "This is an important step forward; however, it is simply impossible for so large a group to discuss each problem in adequate detail; there just isn't enough time." Harlan went on to add, "Some subcommittees meeting separately

are able to do a reasonably good job of planning but much work is left without any overall supervision or planning." Formulation and activities of these committees are acknowledged to have helped but are not considered to represent a permanent solution. Harlan went on to recommend that there be established a permanent technical staff for the review, compilation and coordination of research work and further that regionalization and coordination be considered for each major climatical zone.

Even E. N. Holmgren had some remarks to make on agricultural research in reporting his study of the Agricultural Extension Organization in Turkey, April 25, 1960. In that report he stated: "There appears to be no point of coordination for all agricultural research in The Ministry of Agriculture short of the Minister himself. Research seems to be fragmented into a number of subject-matter institutes and stations with no central point for overall guidance. There is good work being done in agricultural research but there is doubt that the present administrative structure is adequate for close coordination and most effective use of results." His recommendation was: "That The Ministry make arrangements to have a team of at least two outstanding agricultural research people study the present situation and recommend the internal organization of a research Division and method of coordinating all agricultural research." Shortly after, and in response to, a joint request by The Turkish Ministry of Agriculture and the U. S. Operations Mission for Turkey, Charles G. Grey made a 3-month study of the administration and coordination of agricultural research in Turkey on which he and a special committee for The Turkish Ministry of Agriculture prepared a joint report of progress and proposals for further development on November, 1960.

Briefly, the principle recommendations were as follows:

1. That there be established an office for Research Administration and Coordination,
2. That a system be adopted based on approved research programs and approved individual projects prior to expenditures of funds,
3. That two men from The Ministry of Agriculture, one later to be assigned as Coordinator of Research and the other as Business Manager for the Agricultural Research Administration and Coordination Center be sent to the USA for a training period of 12 months.

STUDY PROGRAM

In accordance with these recommendations two nominees were approved by The Ministry of Agriculture as participants in the 1961 ICA Technical Assistance Project No. 335. The ICA Mission of Turkey was so informed in March, 1961 by an official statement from The Ministry.

The proposed objectives of the study program in the U.S.A. for the participants were sent to Agency of International Development of the United States through its Mission in Ankara, Turkey in March 31, 1961. These objectives included:

1. One to two months at Beltsville, Maryland, with observation and training in research administration.
2. Four to six months at Office State Experiment Stations, ARS, USDA Washington, working with the entire staff, including participation in several state experiment station reviews.
3. The balance of the time to be spent with one or more State Agricultural Experiment Stations studying the organization, methods of operation and project and budget control of each.
4. An opportunity to be provided for studying Federal and State legislation relating to the establishment and financing research programs.

Dr. Charles G. Grey, State Experiment Station Division, Agricultural Research Service, who served as a research consultant in Turkey, to be consulted in the preparation of the program of study for these participants.

Subsequently, a tentative program and itinerary dated September 30, 1961 was received in Ankara for the two participants.

On review it was determined that certain adjustments would greatly improve the program. After arrival of the participants in the U. S. and on consultations with program specialists and advisors the changes were made and the program amended.

The amended program for the participants covered the following major items:

1. Discussions with representatives of the major agencies and services of USDA.
2. Meetings and discussions with officials of the research services of USDA.
3. Participation in the work of project and program reviews and approval of the Cooperative State Experiment Station Service and in annual reviews of research programs at several State Experiment Stations.
4. Participation in the following training courses:

ARS Supervisory Development Program,
Communications Seminar,
Public Administration in Agricultural Development.

5. Attendance and participation in the Agronomy and Soil Conservation Society meetings.
6. Preparation of a report and recommendations of an organization and proposed enabling legislation for an Agricultural Research Administration and Coordination Agency in Turkey.

USDA - A BRIEF REVIEW

Overall Organization and Functions

The Department of Agriculture was created by act of Congress approved May 15, 1862, and until 1889 was administered by a Commissioner of Agriculture. By act of February 9, 1889, the powers and duties of the Department were enlarged. It was made the eighth executive department in the Federal Government, and the Commissioner became the Secretary of Agriculture.

In general the material concerning organization, functions and activities of USDA are excerpts taken from the U. S. Government Organizational Manual for 1962-63. Detailed material has been gathered and is being assembled for reference and further study after our return to Turkey. Flexibility to meet changing need is recognized as desirable and essential; therefore, organization is purposely not static but is properly living and vital; reorganization taking place as need arises.

The Department is directed by law to acquire and diffuse useful information on agricultural subjects in the most general and comprehensive sense. It performs functions relating to research, education, conservation, marketing, regulatory work, agricultural adjustment, surplus disposal, and rural development. It conducts research in agricultural and industrial chemistry, the industrial uses of farm products, entomology, soils, agricultural engineering, agricultural economics, marketing, crop and livestock production, crop and livestock disease, production and manufacture of dairy products, human nutrition, home economics, forestry, and conservation. It makes research results available for practical farm application through extension and experiment station work in cooperation with the States.

The Department provides crop reports, commodity standards, Federal meat and poultry inspection service, and other inspection, grading, and marketing services. It seeks to eradicate and control plant and animal diseases and pests. In connection with these and other functions, the Department administers many regulatory laws designed to protect the farmer and the consumer.

Other important functions and responsibilities of the Department include:

1. Administration of the national forests and, in cooperation with the States, promotion of better protection and management of forests on private lands;
2. Aid to farmers in planning and installing erosion-control and other soil and water conservation measures on their farms;
3. Assistance in the prevention of floods by planning and aiding in the installation of measures on farm, grazing, and forest lands, and in small stream channels, to retard runoff and reduce damaging effects of floods;
4. Direction of agricultural attaches who are located in various key points of the world, and administration of programs to dispose of surplus agricultural commodities;
5. Cooperation with the States, through a grant-in-aid program, in carrying on the national school lunch program;
6. Making loans to farmers who cannot get elsewhere the credit they need at reasonable terms, both for farm operations and to enable farm tenants and others to become farm owners;
7. Making loans to farmer cooperatives, other nonprofit organizations, and commercial concerns for the purpose of financing electric and telephone facilities in rural areas; and
8. Cooperation with State and local communities in connection with the Rural Areas Development Program.

The work of the Department as a whole is directed by the Secretary of Agriculture assisted by the Under Secretary. The various agencies in the Department are grouped for reporting purposes, into the following major units;

1. Under Secretary for Foreign Agricultural Service
Foreign Agricultural Service
2. Assistant Secretary for Federal-State Relations
Agricultural Research Service
Cooperative State Experiment Station Service
Federal Extension Service

3. Assistant Secretary for Marketing and Stabilization

Agricultural Marketing Service
Agricultural Stabilization and Conservation Service
Commodity Credit Corporation
Commodity Exchange Authority
Federal Crop Insurance Corporation

4. Assistant Secretary for Rural Development and Conservation

Farmer Cooperative Service
Farmers Home Administration
Forest Service
Rural Areas Development
Rural Electrification Administration
Soil Conservation Service

5. Director for Agricultural Economics

Economic Research Service
Statistical Reporting Service

6. Administrative Assistant Secretary

National Agricultural Library
Office of Appraisal and Systems Development
Office of Budget and Finance
Office of Hearing Examiners
Office of Information
Office of Personnel
Office of Plant and Operations

7. General Counsel

Office of the General Counsel

8. Inspector General

JUDICIAL OFFICER
AND HEARING CLERKSTAFF
ASSISTANTS

OFF INSP GENL

DEPARTMENTAL ADMINISTRATION
ADMINISTRATIVE
ASSISTANT SECRETARY
Budget and Finance
Hearing Examiners
Information
Management Appraisal and
Systems Development
Nat'l Agricultural Library
Personnel
Plant and Operations

RURAL DEVELOPMENT
AND CONSERVATION
ASST. SECRETARY

AGRICULTURAL ECONOMICS
DIRECTORFOREIGN AGRICULTURAL
SERVICEECONOMIC RESEARCH
SERVICESTATISTICAL REPORTING
SERVICEOFFICE OF
RURAL AREAS
DEVELOPMENTFARMERS HOME
ADMINISTRATIONRURAL ELECTRIFICATION
ADMINISTRATIONFARMER COOPERATIVE
SERVICEFOREST
SERVICESOIL CONSERVATION
SERVICE

Agencies, Groupings, Establishment and Functions

A. Foreign Agricultural Service

This Service reporting to the Under Secretary for Foreign Agricultural Service represents the United States Department of Agriculture in foreign matters.

The office has primary responsibility for developing foreign markets for United States farm products. This includes (a) the continuing appraisal of foreign agricultural marketing opportunities, as well as competition with and barriers to such marketing, as a service to United States farmers and agricultural trade groups, and (b) aiding the development of markets for United States agricultural products through improvement of international trade conditions, and by administering foreign trade programs, including Title I of the act approved July 10, 1954, which provides for export sale of United States farm surpluses for foreign currencies. Specific duties of the Foreign Agricultural Service include (1) advising the Secretary and the Department on matters pertaining to agricultural relationships between the United States and foreign areas; (2) obtaining and disseminating data needed by United States farmers, business, and Government, regarding foreign agricultural production, markets, policies, and competition; (3) representing the interests of United States agriculture and the Department in relationships with other agencies of the United States Government having responsibilities with respect to foreign technical assistance programs, including the coordinating of training of foreign visitors who come to the United States to study American agriculture.

B. Federal-State Relations

This comprises the Agricultural Research Service, the Cooperative State Experiment Station Service, and the Federal Extension Service, all reporting to Assistant Secretary for Federal State Relations.

1. Agricultural Research Service

Establishment: The Agricultural Research Service was established under Secretary's Memorandum 1320 dated November 2, 1953, consolidating most of the physical, biological, chemical and engineering research and pest regulatory programs in the Department.

Functions: The ARS is responsible for:

- (a) Coordination of research activities of the Department including examination and analysis of such activities

current and contemplated, review and approval of projects or proposals prior to initiation, advice and consultation on planning with head of agencies, and reports recommendation to the Secretary.

- (b) Fundamental, applied, and development research relating to the production and utilization of agricultural products. This research involves work on field and horticultural plant;s, harmful and beneficial insects, (except forest and stored product insects), plant disease organisms, and the development of information on the potentialities, limitations, and methods of managing soil, water, machinery, buildings, and farm resources for the most effective use of crop and range lands.
- (c) Livestock research is conducted on all farm livestock, poultry, and domestic fur animals to develop superior strains and types, establish nutritive requirements, achieve efficient use of feed and forage in the production of meat, milk, eggs, fur, wool and other products, develop practical methods of prevention and control of diseases and parasites, improve housing and related facilities and equipment, and develop improved and efficient production and management methods.
- (d) Research on farm management is conducted to integrate improved practices relating to soil, crops, livestock and machinery into more economical and efficient production systems.
- (e) Other investigations and experiments are carried out in the fields of chemistry and related physical sciences, technology and chemical engineering and problems related to the processing and utilization of agricultural commodities and by-products for foods, feeds, fibers, drugs and in industry. The objective is to develop new uses and expand existing uses for the principal farm commodities.
- (f) Providing basic scientific information concerning food, nutrition, textiles, clothing, housing, household equipment and family economics. This research is done in the joint interest of producers and consumers, with the object of developing new knowledge about efficient household management and ways to make best consumer use of food, fiber, and other farm products.
- (g) Setting up special pioneering research groups to explore beyond the present limits of knowledge in the agriculture sciences. They are designed to conduct

long range searches for new scientific data as the surest way to provide a solid foundation for the future development of agriculture.

- (h) Regulatory programs carried on the field of inspection, prevention, control and eradication of diseases and pests of livestock and crops. Enforcement of quarantines and regulations aimed at preventing introduction or spread within the United States of animal and crop diseases and pests is conducted by the Service. The Service conducts inspections to insure the wholesomeness and freedom from disease of domestic and imported meat and meat food, and regulates the marketing of economic poisons, and devices for controlling insects and animal and plant diseases, in order to safeguard the public.
- (i) Research is conducted at the 12,000 acre Agricultural Research Center, Beltsville, Md., where many projects of ARS and other agencies are underway and at numerous locations in the States, Territories, possessions and foreign countries.
- (j) The Agricultural Research Service budget for regular services and functions is \$163,020,000 for fiscal year 1962. Employees in all categories number some 16,705 people.

Organization: The work of the Agricultural Research Service is directed by the administrator and assisted by deputy administrators, division directors, internal audit staff, emergency programs staff, legislation and special assignment staff.

The various Divisions are grouped for reporting purposes into the following major units:

(a) Farm Research

This comprises the Agricultural Engineering Research Division, Animal Disease and Parasite Research Division, Animal Husbandry Research Division, Crops Research Division, Entomology Research Division, Soil and Water Conservation Division, Biometrical Services Staff and Radiological Safety Staff, all reporting to deputy administrator for Farm Research.

- (1) The Agricultural Engineering Research Division. The Division is concerned with research on safe and efficient uses of farm power, labor, machines, structures, and materials. It seeks to improve farm machinery, equipment and methods for producing,

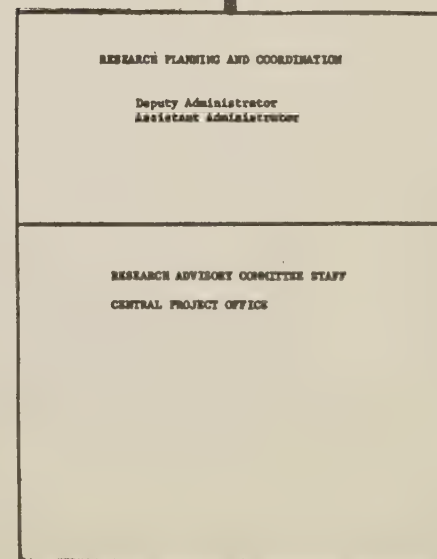
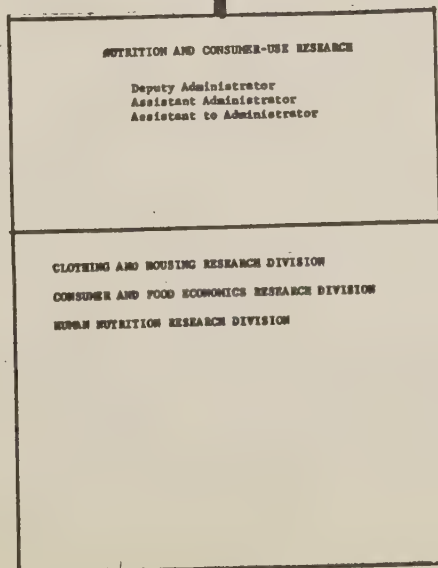
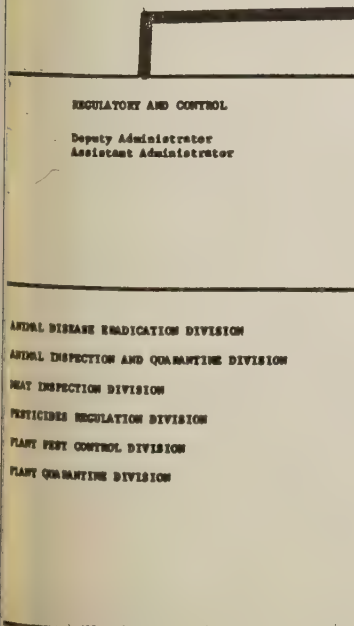
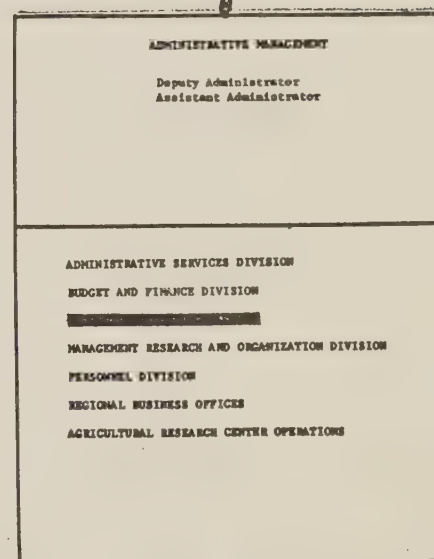
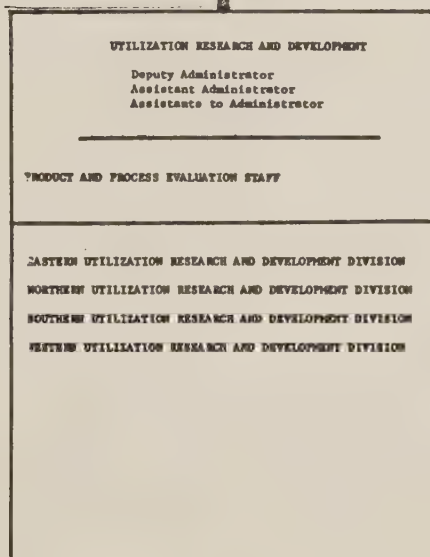
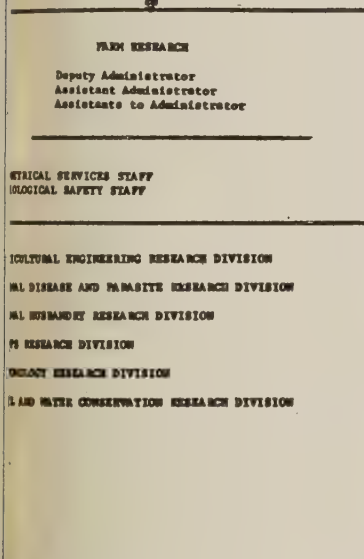
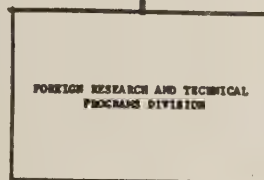
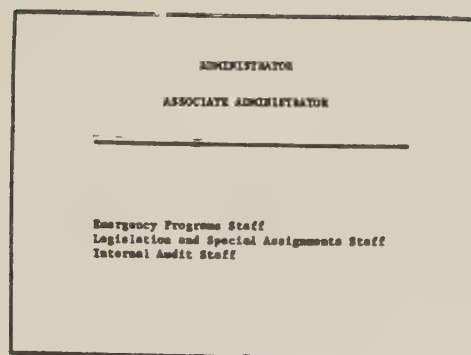
conditioning, and preparing farm products for use or sale. This Division comprises the following Research Branches: Crop Production Engineering, Harvesting and Farm Processing, Livestock Engineering and Farm Structures, Farm Electrification.

- (2) Animal Disease and Parasite Research Division. The Division conducts research in the broad field of livestock and poultry diseases. Investigations are made to determine the cause, symptoms, pathology, diagnosis, treatment, and methods of control and prevention of bacterial, mycotic, virus, and noninfectious diseases as well as those caused by internal and certain external parasites. The following major research laboratories are directed by this Division:

National Animal Disease Laboratory
Ames, Iowa
Plum Island Animal Disease Laboratory
Greenport, Long Island, New York
Beltsville Parasitological Laboratory
Beltsville, Maryland

- (3) Animal Husbandry Research Division. The Division conducts research for the purpose of increasing the efficiency and economy of livestock production. The research program is designed to develop new and improved methods of breeding, feeding, and management of beef, dual-purpose, and dairy cattle, swine, sheep, goats, and poultry; to identify or develop more efficient types and strains of these classes of livestock; and to improve the quality of livestock products such as meat, milk, eggs, and wool. In addition, research is conducted with domestic fur animals to develop improved methods of breeding, feeding, and management of domestic rabbits for meat and fur, and to improve the production of fur by minks and marten raised in captivity. The research branches and laboratories of the Division are: the Dairy Cattle Research Division, Beef Cattle Research Division, Poultry Research Division, Swine Research Division, Sheep and Fur Animals Division, Meat Quality Laboratory, Blood Antigen Pioneering Research Laboratory, and Animal Genetics Pioneering Research Laboratory

- (4) Crops Research Division. This Division conducts research on improving varieties through breeding to increase yield,



to improve quality, and to provide resistance to such hazards as diseases, insects, heat, cold and drought; identification of plant disease organisms and determination of current information of the incidence of principal plant diseases; studies of plant growth substances and their production from agricultural sources; and study of the effects of light and other environmental factors on various processes of growth and development. The research branches of the Division are: Cereal Crops, Forage and Range, Cotton and Cordage Fibers, Tobacco and Sugar Crops, Oilseed and Industrial Crops, Fruit and Nut Crops, Vegetables and Ornamentals, New Crops and Crops Protection. A plant physiology and a plant virology laboratory also is under the direction of this Division.

(5) Entomology Research Division.

This Division conducts research on the development of control measures for insects affecting cereals, forage grasses, cotton, sugar plant, tobacco, fruits, truck and garden crops, nut crops, ornamental trees, shrubs and flowers, agricultural products, livestock and man. Research is also conducted on beneficial insects, on insect parasites and predators that destroy insect pests; on the biology and ecology of insects; on methods of conducting surveys to forecast impending outbreaks; and on insect identification and classification. The research branches are: Grain and Storage Insects, Cotton Insects, Fruit and Vegetable Insects, Insects Affecting Man and Animals, Pesticide Chemicals, Insect Identification and Parasite Introduction Apiculture. The Pioneering Research Laboratories are: Insect Pathology and Insect Physiology.

(6) Soil and Water Conservation Research Division.

This Division conducts research in three broad areas: watershed engineering, which includes studies of runoff, ground water accretion, sediment, engineering design of conservation structures and other factors affecting watershed yields; soil management, including tillage practices, cropping systems, soil blowing, micro-climatology, soil-plant factors and other basic soil problems; and water management, which includes irrigation, drainage, seepage control, water and erosion control and other studies. The research branches of this Division are: Northeast, Corn Belt, Southern, Northern Plains, Southern Plains, Northwest, Southwest. Also, the Mineral Nutrition Pioneering Research Laboratory at Beltsville, Md., is under this Division.

(7) Biometrical Services Staff.

This staff is responsible for providing biometrical services necessary to perform consulting services on experimental design and statistical methods and techniques. The staff provides data processing services for research activities except those covered by the Data Processing Division; and performs independent and cooperative research in the field of statistical methodology in order to develop new and improved statistical methods and techniques useful in various subject matter research fields. The staff provides for the conduct of short courses or seminars to familiarize ARS personnel with the advantages to be derived from the use of appropriate statistical procedures.

(8) Radiological Safety Staff.

This staff has responsibility for the protection of the health and safety of USDA employees while they are working with radioactive material and/or radiation equipment. This function is performed through the development of rules, procedures, and instructions which are necessary to control the acquisition, use, and disposition of all radioactive material and radiation equipment.

(b) Utilization Research

There are four geographically located Divisions within the Utilization Research and Development Area -- Northern, Eastern, Southern, and Western. All reporting to Deputy Administrator for Utilization Research and Development. The research programs of the four Utilization Research and Development Divisions are concerned with research in such areas as: organic chemistry of natural products; composition, structure, and properties; physical measurements of natural substances; isolation and characterization studies; synthetic organic conversions; process and product development; pilot-plant scale development of chemical and fermentation processes; and mechanical design and engineering estimates.

Each Division engages in research on assigned commodities of major significance to the agricultural economy. Because of the widespread economic importance of some of the commodities, research may be conducted by more than one division (especially if they present problems peculiar to different geographical areas). The following is illustrative of the nature of research assigned to each division:

- (1) Eastern Utilization Research and Development Division.
Eastern deciduous fruits; eastern vegetables; meats; dairy products; animal fats; hides, tanning materials, and leather; honey; maple products; tobacco; wool byproducts; plant precursors of cortisone; biologically active plant compounds; and allergens of agricultural products.
- (2) Northern Utilization Research and Development Division.
Wheat, corn, and other grains grown in the North Central States; soybeans, flaxseed, and other oilseeds grown in the North Central States; forages; new crops; and agricultural residues.
- (3) Southern Utilization Research and Development Division.
Cotton fiber and cottonseed; tung fruit; peanuts; rice; sugarcane; pine gum; citrus fruits; and sweetpotatoes, cucumbers and other southern vegetables.
- (4) Western Utilization Research and Development Division.
Western fruits and tree nuts; western vegetables; wheat and rice; wool and mohair; poultry and eggs; sugar beets; and alfalfa and other forage crops.

(c) Nutrition and Consumer Use Research

This comprises the Clothing and Housing Research Division, Consumer and Food Economics Research Division, and Human Nutrition Research Division, all reporting to Deputy Administrator of Nutrition and Consumer Use Research.

- (1) Clothing and Housing Research Division.
This Division conducts research on the quality and utility of fabrics, clothing, and household textile articles for different household purposes. The Division explores the kinds and characteristics of housing and household equipment needed to meet family requirements for efficient housekeeping and comfortable living. It develops information basic to wise planning, improved use and care of clothing, household textiles, the house, its equipment, and its facilities.
- (2) Consumer and Food Economics Research Division.
This Division prepares tables on composition and nutritive value of foods, levels of food consumption, and nutritive value and economy of customary diets of various population groups. Research is also conducted on patterns of rural family expenditures,

The meat inspection program is administered through main field stations throughout the country. These stations provide service to packing plants located in more than 500 cities and towns in the continental United States and in Puerto Rico and Hawaii.

(4) Plant Pest Control Division.

The Division conducts programs, largely cooperative in nature, for the control and eradication of harmful plant pests, which include both insects and diseases. It has four primary responsibilities: (1) plant pest survey, (2) cooperative control operations, (3) regulatory operations, and (4) methods improvement. The survey work includes the inspection of all stages of growing crops, including those on the range, in forest areas, and in nurseries. Stored grains, seeds, feeds, and other articles and products often are involved in this activity. The control and eradication processes include field inspections, laboratory tests and analyses, participation in fumigation treatments, aerial spraying activities, and other approved methods of detection, control, suppression, and eradication. The domestic quarantine phase of the work involves the application of regulatory procedures, which include inspection and supervision of treatments required for certification of many kinds of agricultural commodities (such as nursery stock, plants, forest trees and products, grains and the like) and other items that are capable of carrying insect pests or plant diseases in transit. Soil, sand, stone and quarry products, and building materials, as well as highway construction and maintenance equipment, often are involved in this phase of the work.

(5) Pesticides Regulation Division.

The Division administers the Federal Insecticides, Fungicides and Rodenticides Act, as amended, and those provisions of the Miller Amendment to the Food, Drug, and Cosmetic Act which are assigned to the Department of Agriculture. Primarily the program is concerned with the registration of all economic poisons to determine that the product can be used effectively when directions for use are followed without leaving harmful residues. Additionally, certification is made to Food and Drug as to propriety of use on raw agricultural commodities. The Division also investigates violations of regulations and recommends appropriate action.

(6) Plant Quarantine Division.

The Division is responsible for enforcing Federal plant quarantines and related regulatory orders that are designed to prevent the introduction and spread of injurious foreign plant pests that might be brought into this country with plants and plant products imported from abroad and moving from offshore possessions of the United States to the mainland. It examines incoming carriers and cargoes, baggage, and mail for restricted and prohibited materials, and inspects and treats importations of certain plant materials to prevent the entry with them of injurious plant pests. It inspects shipments of agricultural products moving interstate when regulated by Federal domestic plant quarantines, and examines and certifies for compliance with import requirements of the country of destination domestic plants and plant products moving for exportation. The activities of this Division are carried out at principal ports of entry, at several inland traffic centers, and in Hawaii, Puerto Rico, and the Virgin Islands.

(f) Administrative Management

This comprises the following divisions and the Agricultural Research Center Operations, all reporting to deputy administrator for Administrative Management:

(1) Administrative Services Division.

The Division develops and recommends policies, plans, and procedures pertinent to procurement and personal property management, real property management, records management and research agreements and patent programs. The Division provides technical and administrative direction and coordination in the execution, review, and evaluation of approved policies and programs.

(2) Budget and Finance Division.

The Division develops and recommends policies, plans, and procedures concerning the budget and financial activities of the Service. This includes the formulation and presentation of the ARS budget; development of monetary control and reporting systems, accounting systems; and appraisal of budgetary and financial programs in meeting ARS needs.

- (3) Management Research and Organization Division.
The Division develops and recommends policies, plans and procedures for the organizational development of ARS; identification, definition and analysis of problems relative to ARS management effectiveness; and performs management research to provide for new or advanced management principles, techniques for use in the solution of ARS management problems.
- (4) Personnel Division.
The Division formulates, recommends and implements overall policies, programs, plans and standards of personnel management within ARS. It provides technical and administrative direction and coordination in the execution of approved policies and programs.
- (5) Regional Business Offices.
The Offices formulate programs, plans and procedures for administrative services, finance, and personnel activities within their respective region as specified within the framework of established policies, programs and regulations of ARS, and the Department. They maintain liaison with the central management divisions in developing management policies and services as they affect or relate to programs assigned to the regional office.
- (6) Agricultural Research Center Operations.
The Agricultural Research Center is near Beltsville, Maryland, 15 miles northeast of Washington, D. C. It is the headquarters of the Agricultural Engineering, Animal Husbandry, Animal Disease and Parasite, Crops, Entomology, and Soil and Water Conservation Research Divisions, and a major site for other USDA activities. The Agricultural Research Center Operations initiates and recommends proposals for facilitating the orderly development of the Research Center and the most effective use of land and buildings. ARCO also directs activities incident to maintaining and operating the Center.

2. Cooperative State Experiment Station Service

Establishment: Cooperative State Experiment Station Service was established on September 1, 1961, by Secretary's Memorandum No. 1462, to administer the statutory provisions of the Agricultural Experiment Station Act (Hatch Act) which provides for support by the Federal Government of a comprehensive program or research in agriculture carried on by the States through their State Agricultural Experiment Stations.

This work is provided for by grants of Federal funds in support of research work conducted by State stations. The Service has also been assigned responsibility for carrying out the provisions of the Agricultural Marketing Act (1946) authorizing the Secretary to make grants to State agricultural experiment stations for marketing research.

Functions: The Service participates in the coordination of agricultural research conducted by State agricultural experiment stations with similar research conducted by the U. S. Department of Agriculture. The Service assists State agricultural experiment stations in developing procedures for legally authorized dissemination of research results. It provides for the evaluation of program operations for the purpose of appraising the effectiveness and efficiency of policies and programs; analyzes proposed legislation; prepares technical subject matter for budget development; develops and maintains project records and reports; prepares congressional, commodity, industry, trade association and other reports on State agricultural experiment station work and expenditures. The Administrator, Cooperative State Experiment Station Service, provides leadership and direction in the development and implementation of policies governing the administration of Federal-grant funds for research. He has responsibility for developing and maintaining relationships involved in the administration of the Federal-grant program with State, Federal and other agencies. He develops policies for liaison between the State agricultural experiment stations and agencies both within and outside of the Department. He maintains contact with officials of land-grant colleges on matters pertaining to State agricultural experiment stations research. The Administrator is also responsible for developing policies for the planning and coordination of research under the Cooperative Regional Research Fund.

Organization: Leadership and assistance to State agricultural experiment stations are provided through a group of technical specialists in the life, physical and social sciences in the following divisions of the Service:

- (a) Agricultural Economics, Marketing, and Rural Life Division is concerned with such areas as commodity marketing, market structure organization and institutions, farm economics, agricultural policies and programs, and rural life studies. The Division develops and implements policies and procedures for administration of allotments from the Agricultural Marketing Act to State agricultural experiment stations for conduct of marketing research on matched fund projects.
- (b) Animal Science Division is concerned with such fields of animal science as animal husbandry, animal physiology,

animal pathology, and animal nutrition, in connection with the production and improvement of beef cattle, sheep, swine, dairy cattle, and poultry.

- (c) Plant Science Division is concerned with such fields of plant science as agronomy, plant pathology, plant physiology, horticulture, forestry, plant genetics, and soil science, as well as other closely allied fields such as agricultural engineering.
- (d) Utilization, Home Economics, and Human Nutrition Division is concerned with such areas as food technology, dairy technology, industrial uses, human nutrition, and home economics.

In planning and administering the Federal-grant funds for research, the Administrator is guided by two committees. The first, the Committee of Nine (Experiment Stations Committee of Nine on Regional Research) advises the Administrator and makes recommendations regarding cooperative regional research projects financed from the Regional Research Fund. Origin of the Committee resulted from Public Law 352 (84th Congress) pursuant to the Research and Marketing Act of 1946. Membership of the Committee consists of nine persons elected by and representing the directors of the various State agricultural experiment stations within specified geographical regions.

The second committee, the Experiment Stations Marketing Research Advisory Committee, composed of representatives of State agricultural experiment stations, provides advice and guidance to the Administrator in the appraisal of research proposals for marketing research initiated by the State experiment stations.

3. Federal Extension Service

Cooperative extension work has been an integral part of departmental activity since 1914, when the Smith-Lever Act became law.

Provision for the Federal Extension Service in the Department was made in the Agricultural Appropriation Act of 1924, approved February 26, 1923.

Cooperative extension work derives its name from the fact that the Department, the land-grant colleges of the States and Puerto Rico, and the county governments share in the financial, administration, and subject-matter responsibilities. Extension agents work with farmers, homemakers, youth through 4-H Clubs, and with others engaged in marketing agricultural products. The departmental office is composed of administrative and

lateral-grant funds for research at State Agricultural Experiment Stations and coordinates research among states and between states and the U. S. Department of Agriculture.

PROGRAM FORMULATION. Provides leadership and direction in the development and implementation governing the administration of federal-grant funds for research. Develops a program for administration of federal-grant funds for research made available to the State Agricultural Experiment

SECTION. Provides leadership and assistance through a group of technical specialists representing fields of agriculture, in the development of agricultural research conducted at the State Agricultural Experiment Stations, including experiment station-department cooperative research programs participation in coordination of research programs between states and by major agricultural regions.

RELATIONSHIPS AND PLANNING. Represents the Secretary in developing and maintaining relationships in the administration of the federal-grant program with state, federal and other agencies in the research. Develops policies for liaison between agencies both within and outside the Department State Agricultural Experiment Stations. Maintains continuous contact with top officials of land-grants as related to State Agricultural Experiment Stations research. Develops policies for coordination of agricultural research at the State Agricultural Experiment Stations with similar research conducted by the Department and other agencies. Develops policies for the planning and coordination of under the Cooperative Regional Research Fund.

INFORMATION AND COMMUNICATION. Assists State Agricultural Experiment Stations in developing procedures; legally authorized dissemination of research results; advises and assists the Administrator and in the conduct of information and related aspects of CSESS activities of interest to them.

SERVICES. Arranges for or provides the following services as authorized in accordance with and systems and methods: budget and fiscal, procurement and supply, property management, personnel, loans, and mails and files.

OPMENT. Provides for the training and development of the professional staff.

PROGRAM EVALUATION AND SPECIAL REPORTS

Provides for the evaluation of program operations for the purpose of appraising the effectiveness and efficiency of policies and programs; analyzes proposed legislation; prepares technical subject matter for budget development; develops and maintains project records and reports; prepares congressional, commodity, industry, trade association and other reports on State Agricultural Experiment Station work and expenditures.

ANIMAL SCIENCE DIVISION

PLANNING AND COORDINATION. Participates in the coordination of agricultural research conducted by State Agricultural Experiment Stations with similar research conducted by the Department in such fields of animal science as animal husbandry, animal physiology, animal pathology, and animal nutrition, in connection with the production and improvement of beef cattle, sheep, swine, dairy cattle and poultry. Participates in the planning and coordination of research under the Cooperative Regional Research Fund as provided by law.

PLANT SCIENCE DIVISION

PLANNING AND COORDINATION. Participates in the coordination of agricultural research conducted by State Agricultural Experiment Stations with similar research conducted by the Department in such fields of plant science as agronomy, plant pathology, plant physiology, horticulture, forestry, plant genetics, and soil science, as well as other closely allied fields such as agricultural engineering. Participates in the planning and coordination of research under the Cooperative Regional Research Fund as provided by law.

UTILIZATION, HOME ECONOMICS, AND HUMAN NUTRITION DIVISION

PLANNING AND COORDINATION. Participates in the coordination of agricultural research conducted by State Agricultural Experiment Stations with similar research conducted by the Department in such areas as food technology, dairy technology, industrial uses, human nutrition, and home economics. Participates in the planning and coordination of research under the Cooperative Regional Fund as provided by law.

between agencies both within and outside the Department and the State Agricultural Experiment Stations.

and federal officials in the development of cooperative research programs of mutual benefit.

PROVAL. Reviews annually all research and expenditures of State Agricultural Experiment Stations under federal-grant funds being to the Administrator certification that the stations are entitled to receive additional funds. Reviews and recommends grant fund project to insure scientific adequacy and compliance with requirements of basic legislation. Evaluates current on the basis of urgency and agricultural and economic need.

professional personnel serving as the liaison between departmental research and action agencies and the administrative and extension subject-matter staffs at the respective land-grant colleges. County extension agents are located in nearly all the counties of the United States. These agents make available to farmers, farm homemakers, and rural youth the results of research conducted by the Department of Agriculture, the land-grant institutions, and other research agencies, adapted to local farm, home, and market conditions. Extension work is also conducted with rural nonfarm and, to some extent, with urban families. County extension agents take the lead in organizing their counties for county program development in which farm and other families concerned, technicians, and administrative workers plan together to combine scientific information, local experience, and Government aids into local programs.

C. Marketing and Stabilization

This comprises Agricultural Marketing Service, Agricultural Stabilization and Conservation Service, Commodity Credit Corporation, Commodity Exchange Authority, and the Federal Crop Insurance Corporation, all reporting to Assistant Secretary for Marketing and Stabilization.

1. Agricultural Marketing Service

The Agricultural Marketing Service administers broad marketing, distribution, and related programs and activities of the Department, including assigned civil defense and defense mobilization activities. Programs and activities include the following:

Marketing Research--This activity, authorized by the Research and Marketing Act of 1946, as amended, is directed toward increasing the efficiency of marketing of agricultural commodities by means of better marketing practices, methods, facilities, and equipment in such areas as assembling, handling, packing, packaging, transporting, storing, processing, wholesaling, and retailing agricultural products, and basic and applied research in connection with the improvement and maintenance of quality of agricultural commodities and products as they pass through the marketing system.

Matching Fund Program--This program is designed to provide leadership, coordination, and consulting services to States in the development and execution of marketing service projects and provides for the review and approval of projects submitted by States. The Service also provides market news; standardization, inspection, grading and classing; freight

rate services; administers marketing regulatory programs and marketing agreements and orders; surplus removal, export, and diversion programs; administers national school lunch programs and special milk programs.

2. Agricultural Stabilization and Conservation Service

The Agricultural Stabilization and Conservation Service was established by Secretary's Memorandum 1458 of June 14, 1961. It is responsible for operations falling into the following categories: (1) acreage allotments and marketing quotas; (2) milk and tobacco marketing agreements and orders; (3) price support, inventory management, procurement, domestic disposal, and other programs of the CCC; (4) emergency feed assistance programs for the relief of agriculture from the effects of any major disaster; (5) agricultural conservation programs and practices assigned ASCS under the Soil Conservation and Domestic Allotment Act; (6) conservation reserve of the Soil Bank; (7) International Wheat Agreement Act; (8) storage, shipping, and related service activities; (9) administration of the National Wool Act and the Sugar Act; and (10) assigned mobilization and defense activities.

3. Commodity Credit Corporation

The CCC is managed by a board of directors, subject to the general supervision and direction of the Secretary of Agriculture, who is an ex officio director and chairman of the board. The board consists of six members, in addition to the Secretary of Agriculture, who are appointed by the President of the United States by and with the advice and consent of the Senate. In addition to the board of directors, the CCC has a five-member advisory board, the members of which are appointed by the President of the United States. Not more than three of the members may belong to the same political party. The advisory board meets at least every 90 days to survey the general policies of the CCC. Major programs of CCC include price support and stabilization payments. Under existing legislation, price support is mandatory for corn, wheat, rice, tobacco, cotton, peanuts, barley, oats, rye, sorghum grain, wool, mohair, tung nuts, honey, milk and butterfat. Price support is permissive for other commodities. Stabilization payments for diverting excess acreages to conserving uses are authorized for 1962-crop wheat, corn, sorghum grain, and barley. Under its storage facilities program, CCC (1) purchases and maintains granaries and equipment for care and storage of CCC owned or controlled grain in areas where commercial storage facilities are inadequate, (2) makes loans for the construction or expansion of farm storage facilities, and (3) undertakes

such other operations as may be necessary to provide storage adequate to carry out efficiently and effectively CCC's programs.

4. Commodity Exchange Authority

The Commodity Exchange Authority administers the Commodity Exchange Act of September 21, 1922, as amended, which provides regulation of trading and pricing on designated commodity exchanges. The function of the Commodity Exchange Authority is to maintain fair and honest trading practices, and competitive pricing on commodity exchanges designated as contract markets under the Commodity Exchange Act. Major purposes of trading regulation are to prevent price manipulation and market corners, and the dissemination of false and misleading crop and market information affecting commodity prices.

5. Federal Crop Insurance Corporation

The Corporation was created within the Department of Agriculture under Title V of the Agricultural Adjustment Act of 1938. The basic purpose of Federal Crop Insurance is to promote the general welfare by providing farmers the opportunity to strengthen their financial position through insurance of money spent to produce crops against loss from causes beyond their control such as weather, insects, and disease. The immediate objective is to continue the development of a sound system of providing all-risk crop investment insurance, and the ultimate objective is to make this protection generally available to farmers on the major part of their annual crop investments. It does not insure profit for the farmer or cover avoidable losses such as those due to neglect or poor farming practices. Legislation limits the maximum level of coverage to the cost of producing the crop in the area.

D. Rural Development and Conservation

This comprises Farmer Cooperative Service, Farmers Home Administration, Forest Service, Rural Areas Development, Rural Electrification Administration, and Soil Conservation Service, all reporting to Assistant Secretary for Rural Development and Conservation.

1. Farmer Cooperative Service

Work of Farmer Cooperative Service is authorized by the Cooperative Marketing Act of July 2, 1926. The Service works closely with colleges, extension services, and State agencies

to help farmers make their cooperative businesses more efficient. The Service performs research, educational, and advisory service work to assist the 4 out of 5 farmers of this country who now belong to marketing, farm supply, and related service cooperatives. It conducts these research studies and service activities on problems of management, financing, organization, policies, merchandising, product quality, costs, efficiency, and membership. It publishes the results of such studies, confers and advises with officials of farmer cooperatives, and others to disseminate information on cooperative principles and practices.

2. Farmers Home Administration

The Farmers Home Administration was established under the act approved August 14, 1946. It provides credit accompanied by technical farm and money management assistance to eligible farmers who cannot get the financing they need elsewhere at reasonable rates and terms. All loans are made through local Farmers Home Administration offices, generally located in county seat towns. A county committee of three farmers determines applicants' eligibility for loans and reviews borrowers' progress. Each loan is tailored to the individual borrower's needs. The FHA county supervisor assists the borrower in analyzing his resources and planning how these resources plus those obtained by the loan may best be used. The county supervisor also makes visits to the borrower's farm to help solve problems that arise in making major adjustments in his farming operations and in adopting improved farm and home practices.

3. Forest Service

The name "Forest Service" was first applied on February 1, 1905, in a letter from James Wilson, Secretary of Agriculture, to the Forester, stating: "Its provisions (referring to the act of February 1, 1905, which provided for the transfer of the forest reserves from the Department of the Interior to the Department of Agriculture) will be carried out through the Forest Service under your immediate supervision." The Forest Service is charged with the responsibility for promoting the conservation and best use of the Nation's forest lands, aggregating approximately a third of the total land area of the United States. The Service administers 154 national forests, together with national grasslands, land utilization project lands, experimental forests, and other lands aggregating about 186,000,000 acres. The national forests, comprising over 181,000,000 acres, are located in 39 States and Puerto Rico. The Forest Service improves them, protects them from fire, insects, and disease, and manages

their resources for orderly and continuous service and for the maintenance of stable economic conditions in national forest communities. National forests are managed under the twin conservation policies of multiple use and sustained yield. technical methods of forestry are applied to the growing and harvesting of timber. Livestock grazing is scientifically regulated to obtain range conservation along with use of the annual growth of forage. Watersheds are managed for the regulation of streamflow, reduction of flood danger and soil erosion, and the protection of sources of water for power, irrigation, navigation, and municipal and domestic supply. Provision is made for popular outdoor recreation. Scientific management is applied to the development and maintenance of wildlife resources. In 10 regional forest and range experiment stations, in the Institute of Tropical Forestry in Puerto Rico, and in the Forest Products Laboratory at Madison, Wisconsin, and a research unit in Hawaii, the Forest Service conducts investigations in the entire field of forestry and wild land management, including the growth and harvesting of timber, protection of forests from fire, insects, and diseases, management of range lands, efficient and economical utilization of forest products, and research in forest economics and taxation and watershed management. It is conducting a forest survey of the United States. This is a study of the Nation's present and potential forest resources. States and private owners of forest lands and forest industries receive cooperation from the Forest Service. Assistance is provided in the application of sound forest management practices, in the maintenance of organized protection of forest lands against fire, in forest pest control, in flood prevention and river basin programs, and in the distribution of trees for planting woodlands, windbreaks, and shelterbelts. The Service cooperates with States to stimulate development, proper administration, and management of State and community forests. It also administers the Naval Stores Conservation Program and assists in the administration of the forestry practices involved in the agricultural conservation program.

4. Rural Areas Development

The Office of Rural Areas Development was established by Secretary's Memorandum 1448 (revised) of June 16, 1961, to coordinate the efforts of the agencies of the Department of Agriculture in the overall rural areas development effort. Among ORAD's major responsibilities are: developing programs for rural areas development, working with agencies in agriculture determining departmental policies on technical assistance projects and services, promoting industrial and commercial enterprises as well as outdoor recreation and tourism, and recommending rural counties for designation under the Area Redevelopment Act.

5. Rural Electrification Administration

The Rural Electrification Administration was created by Executive Order 7037 of May 11, 1935. This law authorizes loans for facilities to bring central station electric service to persons in rural areas who do not have it, and to make loans for the purpose of furnishing and improving rural telephone service. An act of September 21, 1944, established the interest rate on all REA loans at 2 percent, and fixed the permissible loan period at a maximum of 35 years. Upon inquiry, REA will furnish full information on the methods of applying for rural electric and telephone system loans. If an application is approved by the Administrator after legal, engineering, economic, and financial studies, funds are obligated by a loan contract and the borrower gives a note, mortgage, and in some cases other security. Funds are advanced as needed for carrying out the construction. REA furnishes its borrowers with technical assistance in engineering, accounting, and operations in support of the security of the Government loans. The law provides that, in making electrification loans, preference shall be given to public bodies, cooperatives, and nonprofit or limited dividend associations.

6. Soil Conservation Service

The Soil Conservation Service was established under authority of the Soil Conservation Act of 1935. It is the technical soil and water conservation agency of the Department of Agriculture, charged with the responsibility of developing and carrying out a permanent national soil and water conservation program. The Service administers Department of Agriculture activities involving technical assistance in soil and water conservation and watershed protection and flood prevention on private land. It gives technical information and services needed by other agencies in related programs. The work of the Soil Conservation Service is directed by the Administrator and his staff from the central office in Washington, D. C. The Service maintains 49 State offices and one Caribbean office which perform technical and administrative functions to provide service to field personnel. Within the States, about 285 area offices supervise 2,920 work units where conservation technicians work directly with farmers and ranchers on the land. Technical specialists are located strategically throughout the United States to provide scientific and technical guidance and training to field personnel and to produce land-capability maps and other essential working materials. The primary job of the Service is helping farmers and ranchers, individually or in groups, do conservation work on the land. The Service provides this assistance mainly through locally organized, farmer-directed soil conservation districts. The assistance given to cooperators in districts involves four principal steps:

First, a soil scientist makes a detailed, acre-by-acre soil survey of the farm or ranch. The Service gives the operator a soil and land-capability map of his land. Second, the conservationist gives the farmer or rancher information about practical alternatives for treatment and use of the land within its capability, as indicated by the survey. Third, Service technicians help the operator apply the parts of the plan that require special skills or knowledge. Fourth, the technicians give the guidance needed for maintaining and improving the farm or ranch conservation plan after it is applied to the land. As an integral part of its national program, the Soil Conservation Service has leadership responsibility for the Federal part of the National Cooperative Soil Survey. The work is carried out in cooperation with the State agricultural experiment stations and other State and Federal agencies. Soil surveys meet the immediate needs for detailed information about soils and rural land classification. The Service has the responsibility for the watershed protection activities and the river basin surveys and investigations of the Department of Agriculture. The Service provides on-site assistance in farm drainage and irrigation for groups of farms, and makes and coordinates snow surveys for water forecasting in the Western States. It provides needed technical assistance to farmers and ranchers who participate in the agricultural conservation program of the Department of Agriculture. The Service also gives technical help to the Farmers Home Administration in making soil and water conservation loans to farmers and ranchers.

E. Agricultural Economics

This comprises Economic Research Service and Statistical Reporting Service, reporting to Director for Agricultural Economics.

1. Economic Research Service

The Economic Research Service was created by Secretary's Memorandum 1446, Supplement 1, dated April 3, 1961, under authority of Reorganization Plan 2 of 1953. The ERS conducts programs of research in agricultural economics and marketing, both domestic and in foreign commerce. Program activities are as follows:

Economic and Statistical Analysis--Agricultural economics research includes broad economic and analysis programs on factors affecting agricultural prices and income, commodity outlook and situation, food demand, consumption, and supply. The relationships between the farm economy and the national economy are studied, as are the economic forces affecting general levels of demand, prices, and income in agriculture.

Marketing Economics Research--Marketing research is concerned with market costs, structure, and development, market potentials, and the distribution and merchandising of agricultural products.

Farm Economics Research--ERS administers a national program of economic and statistical research on farm problems involving the efficient use of labor, land, buildings, and equipment in farm production, and adjustment in farming to technological development and changing market outlets.

2. Statistical Reporting Service

The Statistical Reporting Service, created by Secretary's Memorandum 1446, Supplement 1, dated April 3, 1961, administers (1) a program concerned with the review, coordination, and improvement of statistics in the Department and (2) crop and livestock estimates and reporting programs.

Statistical Standards--The Service seeks to improve statistical methods and techniques throughout the Department through counseling, investigation of alternative methods and techniques, and the development of new techniques.

Crop and Livestock Estimates--The SRS prepares estimates and reports of production, supply price, and other aspects of the agricultural economy. These include prices received by farmers for products sold and prices paid by farmers for commodities and services; preparation of indexes of prices received and paid; and computation of parity prices, farm employment, and wage rates.

F. Departmental Administration

This comprises Office of Budget and Finance, Office of Hearing Examiners, Office of Information, Office of Management Appraisal and Systems Development, National Agricultural Library, Office of Personnel, and Office of Plant and Operations, all reporting to the Administrative Assistant Secretary.

1. Office of Budget and Finance

The Office of Budget and Finance carries out departmental functions relating to overall administration of the budgetary and fiscal affairs of the Department. It has responsibility for providing leadership, coordination, and supervision of the foregoing activities, which include the acquisition and distribution of funds; accounting; internal auditing,

including investigation of program operations; budgetary and financial reporting; fiscal management; and related activities. The Office formulates and promulgates departmental policies and procedures relating to the above functions. It reviews and evaluates program and legislative proposals for budgetary, financial, and related implications. In cooperation with other agencies, it reviews and encourages improvements in the management and operation of program and administrative activities in the Department and, through the normal budgetary process and by other means, analyzes and evaluates the efficiency of program operations.

2. Office of Hearing Examiners

The Office of Hearing Examiners was established by Secretary's Memorandum 1180 of December 9, 1946, to conform to the requirements of the Administrative Procedure Act, approved June 11, 1946. The Hearing Examiners hold hearings and perform related duties (1) required by sections 7 and 8 of that act, including proceedings arising under the Agricultural Marketing Agreement Act of 1937, rate-making and disciplinary proceedings under the Packers and Stockyards Act, and disciplinary proceedings under the Commodity Exchange Act, the Perishable Agricultural Commodities Act, the Federal Seed Act, and the Grain Standards Act and (2) pursuant to departmental regulations governing other regulatory and service activities.

3. Office of Information

The Office of Information was established under its present name in 1925 as a consolidation of functions formally organized as early as 1889, to coordinate in the Department the dissemination of information useful to agriculture as directed by the act establishing the Department of Agriculture in 1862. The work falls in three groups: publications, which includes the editorial work, printing, and distribution of publications; current information, which includes press, radio, and television materials; and visual, which includes exhibits, photographs, graphics, and motion pictures.

Publications--The Publications Division is responsible for policy clearance and control of all publications of the Department, both printed and processed. Through several series of technical and popular publications there is made available, to farmers and the public generally, information concerning results of research, conservation, regulatory, and service work of the Department. Popular publications may be obtained through Members of Congress, county agents of the Extension Service, or direct from the Department in Washington.

Technical publications are printed in small volume for scientific workers, and cooperators. A Yearbook of Agriculture is made available annually to Members of Congress, pursuant to law, and available generally by purchase from the Superintendent of Documents; there is available also through the Superintendent of Documents an annual volume of Agricultural Statistics.

Current Information--Current agricultural information is disseminated by the Press Service, Radio and Television Service, and Special Reports Division.

Visuals--The Visual Group produces and distributes motion pictures, exhibits, photographs, filmstrips, and slides, and provides art services necessary to interpret Department programs. Four divisions operate centralized production services for the Department.

4. Office of Management Appraisal and Systems Development

This Office was established on December 8, 1961, to provide leadership to the Department's management improvement program, and is responsible for the general direction, coordination, and technical guidance of management appraisals, operations research activities, systems engineering, and the acquisition and utilization of data processing equipment.

5. National Agricultural Library

The National Agricultural Library provides services to agricultural colleges and universities, research institutions, Government agencies, agricultural associations, industry, individual scientists, farmers, and the general public. With resources of almost 1,200,000 volumes, next to the Library of Congress it is the largest U.S. Government library in existence. It is the largest agricultural library in the United States, covering the field of agriculture in the broadest sense--animal science, plant science, agricultural chemistry, agricultural engineering, agricultural economics, entomology, soils and fertilizers, forestry, agricultural products, human nutrition and home economics, and rural sociology. Publications are received regularly from more than two hundred countries, printed in approximately thirty different languages.

Information contained in the Library's collection is disseminated through loans, photocopies, reference services, and bibliographies, including the Bibliography of Agriculture, a comprehensive listing of substantive agricultural books, reports, pamphlets, and articles. These services and information from the collection are available to anyone, both in the United States and abroad.

6. Office of Personnel

The Office of Personnel has responsibility for general direction, leadership, and coordination of the personnel management program of the Department. This includes supervision over personnel policies, standards, regulations, and procedures in such areas as employment of staff, classification and pay, manpower utilization, employee development, health and safety services, incentive awards, employee fringe benefits, employee relations and appeals, discipline, personnel and records security, investigation of misconduct and wrongdoing on the part of employee.

The Office represents the Department at the Civil Service Commission, with other Government agencies and committees of the Congress as well as with individual Members on personnel matters. It also maintains liaison with land-grant colleges and universities incident to recruitment of qualified employees and specialized training needs in the broad field of agriculture and related sciences.

7. Office of Plant and Operations

The Office of Plant and Operations exercises general staff management direction of (1) the housing of the Department's activities, including technical services on design and approval of related construction projects; the leasing of commercial space and matters concerned with the management of real property, (2) procurement of supplies, services, and construction, including the awarding of contracts in amounts and for items not delegated to agencies; assists Department agencies in administering set-asides for small business firms and for firms in labor surplus areas, (3) supply and property activities, including storage, transportation, utilization, distribution, and accountability of personal property; administers the Department motor vehicle fleet management program, and (4) records, directives, reports, and attendant paperwork activities.

G. Office of the General Counsel

The General Counsel is the principal legal adviser of the Secretary. As chief law officer of the Department he is responsible for providing legal services for all programs, operations, and activities of the Department. He is assisted by a Deputy General Counsel and three Assistant General Counsels, each of whom is responsible for a portion of the legal work of the Department.

Legal Advice

The Office of the General Counsel issues both formal and informal opinions on legal questions arising in the administration of the Department's programs; prepares or reviews administrative rules and regulations applicable to the public; drafts proposed legislation; prepares or interprets contracts, mortgages, leases, deeds, and similar documents; prosecutes patent applications arising out of inventions by Department employees; examines title to lands to be acquired by the Department or accepted as security for loans; and passes upon claims by and against the United States arising out of the Department's activities.

Administrative Proceedings

In administrative proceedings for the promulgation of rules having the force and effect of law and in quasi-judicial hearings held in connection with the administration of various programs, the Department is represented by the General Counsel.

Civil Litigation

Civil litigation arising out of the Department's work is handled by the Department of Justice, with the Office of the General Counsel assisting in the preparation and trial of such cases, except that the General Counsel represents the Secretary in administrative proceedings before the Interstate Commerce Commission involving freight rates on farm commodities and in appeals from the decisions of the Commission to the courts and, by special assignment, the Assistant General Counsel for Litigation represents the Department in certain classes of cases before the United States Courts of Appeals.

Criminal Litigation

Cases having criminal aspects are reviewed for the purpose of referring them to the Department of Justice.

H. Inspector General

The Office of the Inspector General reports directly to the Secretary of Agriculture. It was established pursuant to the authority vested in the Secretary of Agriculture by Section 161, Revised Statutes and Reorganization Plan No. 2, 1953 as amended by Supplement 1 of Secretary's Memorandum No. 1503, August 27, 1962. As stated in Secretary's Memorandum No. 1503, June 25, 1962, the Office shall:

1. Have a broad responsibility for policy direction of all internal audit and investigation activities in the Department.
2. Analyze audit and investigation activities conducted in the Department's agencies to assure coverage of all program and administrative operations of the Department.
3. Develop and recommend policies and regulations to assure prompt identification of any failures to carry out assigned responsibility under the law and policies of the Department.
4. Obtain such information on any audits and investigations conducted by the agencies as may be necessary to determine that prompt and decisive remedial actions are taken.
5. Conduct such audits and investigations as may be necessary.
6. Request agency heads to conduct such special audits and investigations, including follow-up and corrective actions, as deemed necessary.

Research Coordination

Agricultural research, beginning in an organized way with the establishment of the United States Department of Agriculture in 1862, has developed through the years until today the State agricultural experiment stations and the USDA together constitute a large cooperative agricultural research organization, with a program designed to deal with problems of county, State, regional, territorial, national, and international significance.

The Secretary of Agriculture is responsible for administration of research and numerous other functions assigned to the Department by law. Responsibilities involving research have been delegated to the Agricultural Research Service, the Cooperative State Experiment Station Service, Agricultural Marketing Service, Economic Research Service, Forest Service, Farmer Cooperative Service, Foreign Agricultural Service, and others to a lesser degree.

The research program may be broadly divided into six major areas: (1) Farm Research, (2) Utilization Research, (3) Home Economics Research, (4) Marketing Research, (5) Economic Research, and (6) Forest Service.

Coordination of all research in the Department is delegated by the Secretary to the Administrator of the Agricultural Research Service. This responsibility includes examination and analysis of all research activities current and contemplated, review and approval of all projects or proposals prior to initiation, advice and consultation on planning with heads of agencies, and reports and recommendations to the Secretary.

The organizational units that advise and assist the Secretary and the administrators of the several programs in overall coordination and program development include the National Agricultural Research Advisory Committee, 25 commodity and functional advisory committees, the advisory committee secretariat, the Agricultural Research Council, and the Central Project Office.

Units that provide services of a staff nature to the research programs include the Department staff and administrative offices, such as the Office of Budget and Finance, Office of Personnel, Office of Information, Office of Plant and Operations, Office of the General Counsel, and the Department Library. In addition, the Office of Operations of the Agricultural Research Center provides services for research units carrying on work at that location.

National Agricultural Research Advisory Committee

New problems created by changing conditions require shifting of research effort. To serve its purpose most effectively agricultural research must meet the needs of the times. Social, educational, and economic forces, for example, have altered market demands for farm products and brought increased consumption of fruits and vegetables, meats, and milk. Improvements in transportation, handling, processing, and distribution have intensified some of these shifts. A dynamic research program involves periodic broad adjustments based on evaluation of trends and anticipation of emerging problems.

The 11-member National Agricultural Research Advisory Committee, formerly ARPC, authorized by Title III of the Research and Marketing Act of 1946, directs its attention to the broad adjustments needed to maintain a dynamic program. During the past 12 years, this Committee, which meets quarterly, has advised the Secretary and his research administrators on many aspects of the program. At its 44th meeting, held October 24, 1957, it prepared and approved the following summary of its advice up to that date:

Advisory committees can perform a valuable function in research program development. This Committee (ARPC) should concern itself with broad policy problems and should seek to improve the operation of commodity and functional committees as a means of identifying and selecting specific areas toward which the research program should be directed.

The objectives of agricultural research should be reviewed from time to time. Well-stated objectives are valuable in

appraising the importance and in selecting for attention the specific problems that are important to the accomplishment of major objectives.

Adjustments in the current program to reach broad objectives involve more emphasis in several areas. Basic research needs to be expanded. Greater emphasis is needed on both basic and applied research that will lead to (1) new industrial uses for agricultural products, that are economically practicable, (2) improved marketing techniques and efficiencies in processing and distribution, (3) expanded domestic and foreign markets, (4) developing, maintaining, and objectively measuring product quality, (5) more effective use of food as a means of achieving human vigor and health, (6) balancing production and market demand, and (7) improved basic information as a background for agricultural policies and programs.

Scientists who conduct the research work are the key to success. Every effort should be made to attract and develop the most able persons available and to provide them with the facilities, working tools, salaries, and other employment conditions that will maximize their effectiveness.

Administrative leadership that achieves sound program development, coordination, economy in operation, and stimulation of imagination and initiative is essential to maximum effectiveness of scientific effort. Such leadership must also see that research results are promptly disseminated to those who can use them and that the public understands the objectives and values of the research program.

The interests of the public as a whole and those who are dependent on agricultural occupations for their income will be served best when we achieve the objective stated by Congress in the Research and Marketing Act, i.e. "To assure agriculture a position in research equal to that of industry."

Commodity and Functional Advisory Committees

In addition to the Policy Committee the Research and Marketing Act authorized additional committees to "assist in effectuating specific research and service programs." The 25 committees established by the Department are composed largely of representatives of groups that use the findings of research. Their advice is sought on suggesting specific problems to which research effort should be directed. Most of these committees meet annually for 3 days. Their functions are:

1. Acquainting themselves with the problems of producers, processors, distributors, and consumers, and presenting them for committee consideration.

2. Reviewing the current research and marketing service programs of the Department and recommending adjustments, including terminations, in the current program in order that available funds, personnel, and facilities will be used on problems of greatest importance.
3. Recommending new work or expansion of current work and indicating relative priority of such recommendations, when the current program is insufficient to develop solutions for important problems.
4. Developing a better understanding of the nature and value of the agricultural research program, explaining it to interested groups and organizations and encouraging the wider and more rapid application of the findings of research.

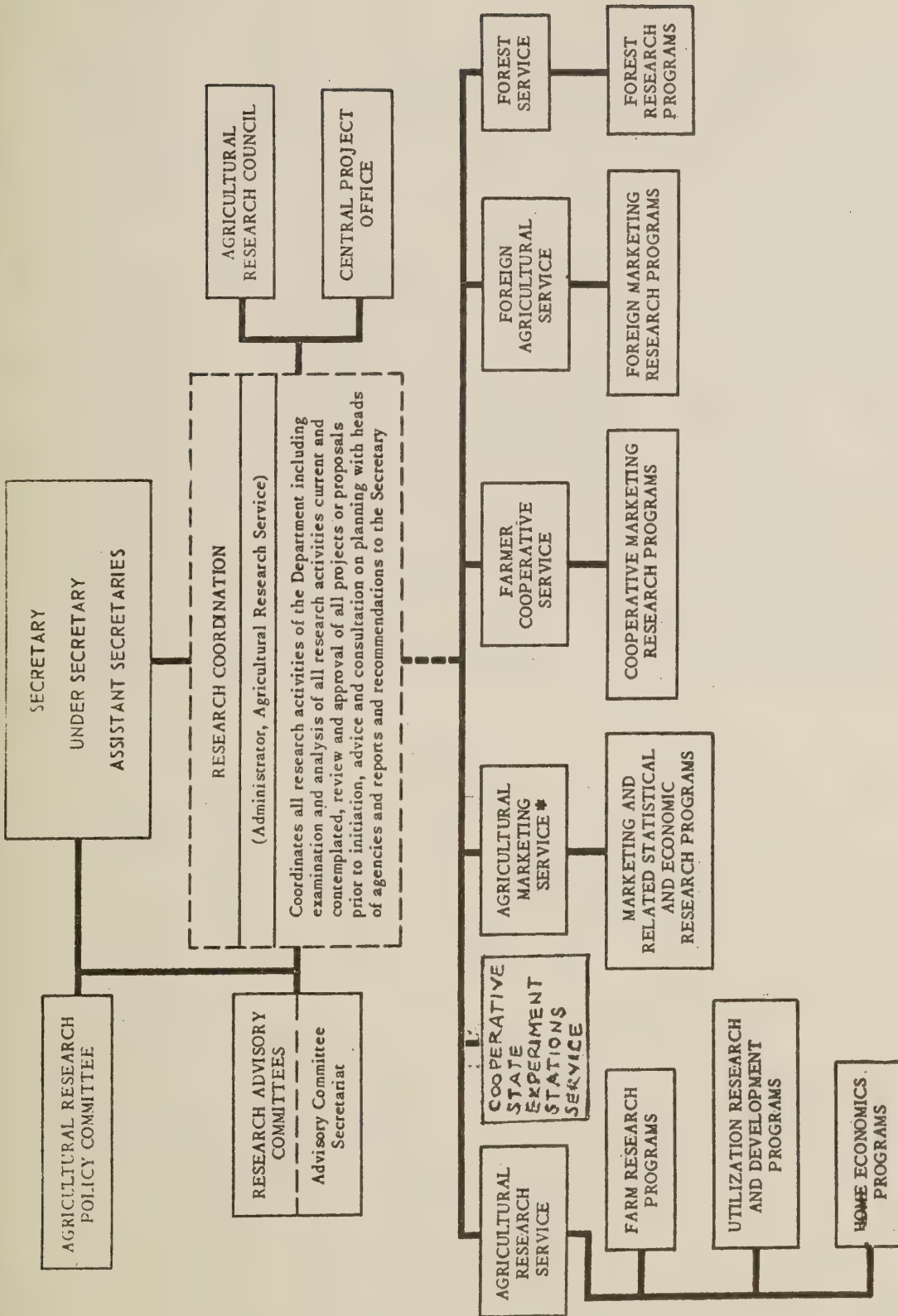
The areas of interest of these advisory committees are: Citrus and subtropical fruits; cotton and cottonseed; dairy; deciduous fruits and tree nuts; economics; farm equipment and structures; feed and forage; food distribution; food and nutrition; forest; grain; home economics; livestock; oilseeds and peanuts; potato; poultry; refrigerated and frozen products; rice; seed; sheep and wool; soils, water, and fertilizer; sugar; tobacco; transportation; and vegetables.

Supporting and assisting each advisory committee is a Departmental Working Group composed of representatives from each of the program activities having an interest in the work of the committee. In preparing for advisory committee meetings and in following up to effectuate committee recommendations, these working groups develop procedures for a coordinated attack on problems that need attention.

The men who serve as executive secretaries of the advisory committees are familiar with all aspects of the Department's research program and with emerging problems that need attention. They facilitate program coordination and prevent duplication of effort by arranging conferences of representatives of the several agencies that can contribute to the solution of a particular problem. They also keep the members of their advisory committees informed of developments of interest in the Department's research program during the periods between annual meetings.

Agricultural Research Council

Procedures for effectuation of policies that affect all of the Department agencies conducting research programs are the concern of the Agricultural Research Council. The council is composed of the ARS Deputy Administrators for experiment stations, farm research, and utilization research; the Director of home economics research, the AMS Deputy Administrator for marketing research and statistics; the Administrators of the Farmers Cooperative Service and Foreign Agricultural Service; the Assistant Chief for research of the Forest Service, and the Secretary of the Agricultural Research Policy Committee.



Central Project Office

The Department's Uniform Project System provides a basic tool for administrative control of research activities, and for safeguarding against undesirable duplication of effort. Broad, continuing fields of research are formally documented, reviewed, and approved by appropriate officials. Specific undertakings within these broad fields are proposed in the form of clearly stated project descriptions.

The Central Project Office working within the framework of the Uniform Project System implements and facilitates the effective coordination of agricultural research throughout the Department. It assists in obtaining a well integrated research program by acting as a control center in the review and approval of research proposals. It examines all project proposals for adequacy of statement and refers them to any part of the Department doing related work. They are also reviewed by subject-matter specialists in the Cooperative State Experiment Stations Service because of their familiarity with the agricultural research at the State stations and by the executive secretaries of research advisory committees. Comments of all reviewers are then recorded and later checked to see that differences have been reconciled before the project receives formal approval by the appropriate officials. It also provides an informative reference file of approved projects. Analyses of the Department's research program are conducted as an aid to effective administration.

STATE AGRICULTURAL EXPERIMENT STATIONS

A. Establishment, Functions, Working Relations, Financing, Programs and Information.

The history of the agricultural experiment stations is closely connected with that of the Land-Grant Colleges. The agricultural colleges in those days did not provide organized stations, but they assumed responsibility for research. Federal grant Funds were authorized by the Hatch Act of 1887 for direct payment to each state that would establish an agricultural experiment station for the purpose of engaging in systematic scientific study of problems relating to the agriculture of the state.

Federal-grant payments to the States for agricultural research serve as an incentive for a large amount of additional non-Federal support to carry on essential research. In addition to sharing the cost of Federal-grant agricultural research by contributing non-Federal monies, the States also pay for closely related lines of research and the major cost of administration and general overhead expense.

State experiment station research is primarily concerned with the solution of problems affecting the agricultural economy and public welfare within respective States. Regional problems are usually the subjects of cooperative research in which two or more State experiment stations, and frequently the Department of Agriculture, pool their technical resources and facilities in relation to their respective responsibilities and capabilities.

All agricultural research at the State experiment stations, including that supported with Federal-grant, State and other funds, is under the leadership and administration of the respective State experiment station directors. The director is responsible to the head of his institution and to its governing body within the State. He is not a Federal employee. As director of the station, his responsibility to the Federal

Government is to render account and give satisfactory proof annually that research expenditures and distribution of Federal-grant funds have been made within the provisions of the laws authorizing and appropriating such funds.

The agricultural experiment station and the agricultural extension service members work closely together, both are members of the Land-Grant colleges. Research and extension are often under the administration of a dean whose authority may be delegated to a director or associate director of experiment station and extension. Extension specialists are generally located in the departments and they work very closely with research workers. Some of the staff engage in part-time work with extension and also in part-time with research.

The working relations of a station with residential instruction is always very close, both being members of the Land-Grant College. These two functions are under responsibility of a dean who delegates authority to respective directors or associate directors of experiment station and residential instruction. Heads of departments are concerned with research and teaching in their departments. Many of the teaching staff also do research.

Research agencies of USDA and the state agricultural experiment stations deal with the agricultural research done in the United States. Relations between USDA and the state stations involve all phases from financial support to the sharing of laboratories, equipment, facilities and personnel.

Under provisions of the regional research fund, there is now a well-established pattern for consideration, planning and integration of research aimed at problem areas that extend beyond state boundaries.

Directors of stations are enabled by the regional research fund to consider problems of broad interest that may be solved by two or more stations or by such stations and departmental research agencies pooling their physical resources and technical know-how.

In recent years financial support to the state agricultural experiment stations by other government agencies has been greatly increased. The National Science Foundation, the National Institute of Health, the Atomic Energy Commission and other federal departments have helped to establish a firm working relationship between those agencies and the state agricultural experiment stations.

Working relations of the stations with private agencies or industry may involve straight financial or material help.

Sources of support for the state agricultural experiment stations include state appropriations, special endowments, fellowship fees, sales money, federal grants, USDA agency funds, private industry or company funds and the other federal agency funds.

The state agricultural experiment stations have fully adapted the uniform project system. A research project is an outline of a specific problem within a research program. It gives a clear statement of the problem, the objectives to be met, and procedures for the initial attack; it serves as a guide to the research worker, the head of department and the director.

The research project whether supported by Federal grants or state appropriations is planned and developed by the research worker. On initiation of the project, he becomes leader and is responsible for execution of the research. His plan for the project should include recommendations for cooperation with other members of his department and with members of other departments where desirable. In general, the project leader develops his plans in consultation with all who might be involved until the time his proposal reaches the department head. At that stage, the project if supported by state funds is approved by the director. Projects financed with Hatch funds must be approved by CSESS of USDA on the recommendation of the director.

The Cooperative State Experiment Station Service represents the Secretary in the administration of the Federal grant funds and assists in the planning and coordination of the research of the State Agricultural Experiment Stations with that of the USDA. This Agency's

staff with experience in the various fields of agricultural research annually visit the experiment stations and reviews the Federal-grant programs in progress. The annual field review and consultation on research conducted and of the expenditures made by each station is one of the major activities of that Service.

Every state agricultural experiment station is required to prepare annual progress reports for Federal-grant projects. These reports cover the period from the date of the previous year's reports to the date when the current reports are issued. Each include the project title, number and fund, the station departments working on the project and the cooperating agencies, the leaders and all technical workers, major accomplishments since the last report and any finding of economic value to agriculture and the general public, work planned for next year, and the titles of publications issued.

There are several ways that research information is made available to the people. The most significant is by reporting and publication. Research is not accomplished until it has been reported and published.

Scientists in the state agricultural experiment station have several types of publications available to them for reporting research results. The following series of publications are common to most agricultural experiment stations: monographs, technical bulletins, bulletins, and annual reports.

In other cases research information is made available to the people through the extension service. To carry out these functions, the Service has a staff of specialists generally housed with the research staff of the experiment station and a staff of county extension agents located in every county who make useful research information quickly available to the people of the state through demonstration and other teaching methods. The people learn to apply this information under varying conditions to individual situations.

Extension specialists keep in close touch with research work of the agricultural experiment stations, experiment stations in other states and the research

work of industry and USDA. Specialists help County Agents keep up to date on research information and assist agents in getting this information to the people. They translate research information through state-wide radio and TV programs, news releases, bulletins, meetings, county demonstrations and farm and home visits into easily understood terms and serve as a bridge between the research worker, the County Agents and the people.

B. State Agricultural Experiment Stations Visited.

1. Florida Agricultural Experiment Station:

This station was established under law of the University in 1888 but the date of legislative assent to the Hatch Act was one year later, in 1889. Since 1920, ten branch stations and the same number of laboratories have been founded in connection with main station at Gainesville. 330 staff members of the station are engaged with full or part-time research. An annual appropriation, by the state legislature is about \$5,000,00.00 This is nine times more than funds received from Federal-grant resources. At the station, research programs have been concentrated on agricultural economics, agricultural engineering, agronomy, animal husbandry and nutrition, botany, dairy science, entomology, food technology and nutrition, forestry, fruit crops, ornamental horticulture, plant pathology, poultry husbandry, soils, vegetable crops and veterinary science. 433 active projects are in progress.

The Florida Agricultural Experiment Station consists of a Director's Office, 17 departments, 2 sections and a library at the main station located on the campus of the University and several sub-stations and laboratories distributed over the State. The sub-stations and laboratories are directly tied in with the Director for Research and are generally administered by an Officer in Charge.

Every department is responsible to a head who is a member of the College Station and Extension Staffs.

Agricultural extension, research and teaching are under the supervision of the provost and all are under the general supervision of the President of the University.

The first superior of the Director of the Agricultural Experiment Station is the Provost, whose position ties research, extension and teaching together.

2. Pennsylvania Agricultural Experiment Station:

This station was founded in 1887 but had already begun agricultural research in 1855 soon after establishment of the University. The Station has 250 scientific staff and 376 current projects. The annual budget is about \$3,500,000.00 with 52% State appropriations and 28% Federal-grant funds.

The research undertaken includes: soil productivity, farm crops, animal nutrition, the control of insect pests, plant and animal diseases, improvement of crops and livestock, development of better farm implements, the application of equipment to agriculture, comparative costs of production, marketing, land use, rural health and welfare.

The Pennsylvania Agricultural Experiment Station has an Associate Dean for Research and 3 divisions, namely, Division of Biological Sciences, Division of Animal Science and Industry, Division of Plant Science and Industry and several departments serving as complementary resource units of the College and the University.

The Dean of the College has overall responsibility for research, resident instruction and extension, with delegated responsibility to the respective Associate Directors.

3. Minnesota Agricultural Experiment Station:

The State Agricultural Experiment Station was established in 1868 and was organized in 1888 under the Hatch Act.

Beside experimental work carried on at the St. Paul Campus at Central Station, there are a number of branch experiment stations in the State. The technical staff in the Central Station is 323 and 48 in the branch stations. The Minnesota Agricultural Experiment Station receives about \$4,500,000.00 from various funds and grants annually. 336 current

research projects are distributed in the fields of Agricultural Biochemistry, Agricultural economics, engineering, agronomy and plant genetics, animal husbandry, dairy husbandry, dairy industry, entomology and economic zoology, forestry, home economics, horticulture, plant pathology and botany, poultry husbandry, rural sociology, soils, veterinary medicine.

The Minnesota Agricultural Experiment Station is part of the Institute of Agriculture which is under administration of the Dean, and includes one central station on the St. Paul Campus and outlying branch stations. The Central Station, itself, has 15 research departments and units and an Office of the Director of the Experiment Station.

Branch stations have separate budgets and independent operations but, their research programs are determined by the Central Station and they work in cooperation with the professional people on the Campus. They are responsible to the schools, station and Administrative Services of the Institute of Agriculture for overall administration.

4. Virginia Agricultural Experiment Station:

This station was founded in 1887 only 15 years after the college opened its doors, but date of organization under the Hatch Act took place in 1888. The Virginia Agricultural Experiment Station consists of one main and 13 field stations in various locations. The total number of technical staff is 161 in the main station and 28 in the field stations.

The annual budget of this station is about \$3,000,00.00; \$750,000.00 of this amount comes from Federal Grants. At the present time, 253 research projects have been conducted in the following areas: Agricultural Economics, Agricultural Engineering, Agronomy, Animal Husbandry, Biochemistry and Nutrition, Biology, Dairy Science, Entomology, Forestry and Wildlife, Horticulture, Plant Pathology and Physiology, Poultry Husbandry, Statistics, Veterinary Science, Home Economics.

The Virginia Agricultural Experiment Station has one Administrative Office which includes a Director, an Associate Director and an Assistant Director, a number of officers for administrative management, and several departments at the main station on the Campus, and field stations which are directly tied to and work with concerned departments. Some of field stations have a few scientists permanently located therein and all have a superintendent who is responsible for overall administration.

The research departments are under direction of department heads.

5. The Agricultural Experiment Station of Cornell University (Ithaca), and the New York State Experiment Station (Geneva):

The agricultural research of New York State is conducted at two main Agricultural Experiment Stations, one located at Ithaca and the other at Geneva. The date of organization of the one at Ithaca under the Hatch Act was in 1888. The total number of the technical staff in both stations is 442. Annual budget for research in agriculture is about \$8,250,000. 11% of this comes from Federal-grants. At the present time there are 600 research projects in progress on agricultural economics, agricultural engineering, agronomy, animal husbandry, biochemistry, botany, conservation, dairy and food science, entomology and limnology, floriculture and ornamental horticulture, food science and technology, plant breeding, pomology, plant pathology, poultry husbandry, rural education, rural sociology, seed investigation and vegetable crops.

There is a Director of Cornell Station at Ithaca and also a Director of the State Station at Geneva. Both deal with Agricultural Research and administration, and are supervised by the Dean of College.

6. The Agricultural Experiment Station of the University of Nebraska:

The date of organization under the Hatch Act of the Station was 1887. It consists of a Central Station on the Agricultural Campus and several regional stations in the State. The total number of technical staff is 158 in the Central and 19 in the Regional Stations.

The Agricultural Experiment Station has an annual budget of \$3,500,000.00; 15% of this budget comes from Federal-grants and 37% is provided by the University itself.

288 research projects are conducted on the subjects of Animal diseases and physiology, beef cattle, biochemistry, crop improvement and production, crop processing and storage, dairy production, entomology, family life farm housing, farm machinery and power, farm management and land use, farmstead structure and equipment, flowers and ornamentals, food and nutrition, food technology, forestry, fruits and orchards, household equipment, irrigation and conservation, marketing, plant diseases, plant physiology, potatoes, poultry, range and pasture management, rural sociology, sheep, soils, swine, vegetables, weeds.

The Agricultural Experiment Station is divided as headquarters, Central and Regional Stations. Headquarters with a Director and necessary staff is located on the Campus. The Central Station consists of several subject-matter departments which are under supervision of department heads, experimental grounds, laboratories and greenhouses.

The organizational structure of the regional stations is simple compared to the Central Station. Each regional station has a superintendent who is responsible to the director of the agricultural experiment station in all matters including management and research.

PART II

POSSIBLE ORGANIZATIONAL STRUCTURES FOR AGRICULTURAL RESEARCH ADMINISTRATION AND COORDINATION IN TURKEY.

The problems of research coordination may be solved by any one of several plans; four of which are discussed as follows:

Plan #1

Establishment of an independent Agricultural Research Organization within the Ministry of Agriculture.

Research which is presently the responsibility of different sections of several agencies of the Ministry of Agriculture would be separated from those agencies and consolidated under this independent Agricultural Research Organization within the Ministry of Agriculture. This plan and proposed enabling legislation were given consideration by the Ministry of Agriculture but failed to meet with full accord of the concerned agencies because of the strong interest of these agencies for retaining research responsibility as it applied to their operational and regulatory work.

Plan #2

Reorganization of General Directorate of Agriculture.

In consideration of the fact that a major portion of agricultural research is presently being conducted under the jurisdiction of the General Directorate of Agriculture, plus the fact that the Directorate also has responsibility for Extension and Vocational Agricultural Education it might be a practical solution to reorganize the whole General Directorate of Agriculture with provisions of central offices, one for Extension and Education and the other for Research Administration and Coordination plus regional offices for extension and research coordination. This then would be similar to a pattern suggested by E. N. Holmgren in his report. 3/

The disadvantage of this plan is that important research being conducted by other than those in the General Directorate

of Agriculture would not be subject to coordination unless the General Directorate of Agriculture be given the responsibility of being the main agency for agricultural and related research coordination.

Plan #3

Creation of a Central Office for Planning and Coordination of Research.

If this plan were adopted the officer in charge of the Central Office would be assigned the responsibility for coordination of all research activities of the Ministry of Agriculture including examination and analysis of all such activities current and contemplated, review and approval of all projects or proposals prior to initiation, advice and consultation on planning with heads of various agencies. He would be further responsible for periodic reports and recommendations to the Minister.

The broad diversity of research work conducted within the several agencies of the Ministry of Agriculture require and would benefit by a close interrelationship to achieve a successful research effort on a Ministry-wide basis. In order to effect a comprehensive approach to the entire research program of the Ministry toward integration of the overall objectives of efficiency of agriculture and improvement of income and living there might well be established a Central Office for Research Planning and Coordination.

Through this coordinating activity determinations of whether lines of research properly complement and supplement each other could be made.

The officer in charge of the Central Office would meet with and serve as permanent chairman of a Ministry of Agriculture Research Council made up of Directors General of the various agencies within the Ministry, participating in research planning with all agencies to insure a Ministry-wide approval to research problems that is well integrated and balanced in order to provide the farmer and the public with well-founded and complete information on research developments.

The officer in charge would direct the development and management of a Central Project Office where current information on all research projects conducted within the Ministry (whether of domestic or foreign support) would be maintained and continuously reviewed for the purpose of eliminating duplication and providing maximum interchange of information between related lines of research.

This approach has certain disadvantages in that important research being conducted by other than those within the Ministry of Agriculture would not receive the benefits associated with coordination.

It does have one advantage in that further enabling legislation would probably not be needed.

Plan #4

Establishment of an Agency for Agricultural Research Administration and Coordination.

This plan envisions that agricultural research which is presently the responsibility of different sections of several agencies of the Ministry of Agriculture would be left with those agencies and not separated from them. It further envisions the establishment, within the Office of Assistant Under Secretary for Research, of a National Office for Research Administration and Coordination plus several regional offices. There would thus be established a mechanism whereby all research of the Ministry of Agriculture, and with certain agreements, related research outside the Ministry might well be coordinated at the local, regional and National levels.

This would present the advantage of a unified and coordinated approach to solving agricultural problems of the Nation, yet would allow agencies now engaged in research to retain certain research responsibility as it applies to their operational and regulatory programs. Our recommendations and details of this proposal follow:

RECOMMENDATIONS

1. Proceed with preparation of enabling legislation which would make the following possible:

- a. Establishment of an Office of Assistant Under Secretary for Research.
- b. Within the Office of Assistant Under Secretary for Research establishment of a National Office for Administration and Coordination of all agricultural research within the Nation. (Hereinafter in this report referred to as the National Office).

- c. That the National Office shall be composed of the Office of the Director General, and Administrative Office, a Central Project Office, Offices of National Program Directors for Plant Science, Animal Science, Utilization Research, Agricultural Economics and Marketing Research, Soil and Water Research, Agricultural Engineering Research, Home Economics Research and an Office of Information, Communications and Library.
- d. That a National Research Council be established to act in an advisory capacity to the Assistant Under Secretary for Research on budgets, policies and procedures involving the coordination, or common interest, of research units in the several directorates or agencies in which research is conducted.
- e. That there be established a National Research Advisory Committee composed of the several regional directors, one representative from each regional research, advisory committee and representatives of the national agricultural, forestry and veterinary associations. The Committee shall advise the Assistant Under Secretary for Research with regard to national research needs, and assist in obtaining cooperation of producers, farm organizations, industry groups and other agencies in the furtherance of research, education and extension benefitting agriculture in the Nation.
- f. That several regional offices be established under Regional Directors for the coordination of all agricultural research activities in the respective zones.
- g. That consideration be given to establishment of Regional Research Advisory Committees for the purpose of consulting with the respective Regional Directors and Ministry of Agriculture, Faculty, Agency Officials and others in the region, and making recommendations relative to research and service work, assisting in obtaining the cooperation of producers, farm organizations, industry groups and others.

- h. That all institutions, as well as individuals, engaged in agricultural research adopt as soon as possible the principle of preparing uniform work and line project outlines for the purpose of review, recommendations, approval and coordination.
- i. That, as soon as practicable, in-service teaching seminars be conducted by members of the National Office at suitable locations for the purpose of explaining: preparation of financial, work, and line projects; transmission of projects for approval; flow of proposals in process of being approved; preparation of annual progress reports, etc.
- j. That a firm budget, specifically for agricultural research, be established. These funds to be allotted to approved financial projects covering approved annual programs made up of approved line projects.
- k. That a directory be assembled, listing all those engaged in agricultural or related research, regardless of source of support and whether or not they are located in the Ministry of Agriculture.
- l. That the possibility be explored of written agreements or other devices for cooperation between Ministries, University Faculties and other agencies, foreign and domestic, engaged in, or supporting agricultural and related research.
- m. That the closest possible relationship be maintained and encouraged between research, extension and teaching.
- n. That monthly research seminars be encouraged at appropriate locations where researchers will be able to discuss with their associates and others their project programs and problems encountered, future plans, or recent findings of others, in and out of the country.
- o. That further consideration be given to the continuous need for additional well-trained personnel, capable of planning and conducting sound research with modern methods. And that in the development of

such personnel considerable thought be given to possible modification of existing law so that adequate schooling and training may be provided under adequate financing and allowing adequate time.

PROPOSED ENABLING LEGISLATION

AN ACT

To Create the Agricultural Research Administration and Coordination Agency, and for other purposes.

Sec. 1. Be it enacted That, in order to prevent duplication and overlapping of Agricultural Research work, to promote efficiency and to permit the fullest attention to problems relating to agriculture and related subjects, there is hereby created in the Ministry of Agriculture, the Agricultural Research Administration and Coordination Agency, hereinafter in this Act called the Agency. The Agency shall be under the direction of an Assistant Under Secretary for Agricultural Research Administration and Coordination which position is hereby created.

Sec. 2. For the purpose of preventing duplication and overlapping of Agricultural Research work, determining adequacy of research programs and research program planning, determining the level and scope of research programs of each organization, establishing priorities between research programs and projects, and providing for the necessary cooperation between General Directorates of the Ministry of Agriculture, and between the said Ministry and other organizations of the Government and universities and private research organizations, the Agency is authorized and directed:

(a) to review, analyze, evaluate, modify, approve or disapprove research programs and projects, whether existing or planned, within the Ministry of Agriculture;

(b) to provide for the integration of research, extension and teaching, insofar as these functions are in the control of the Ministry of Agriculture, and insofar as these subjects are in the control of other ministries or of other agencies, to cooperate with such organizations in attaining this objective;

(c) to develop policies and procedures and provide leadership for research planning, research coordination, cooperation within the Ministry of Agriculture, and between the Ministry and other ministries, universities and others engaged in research, education and extension.

(d) to provide technical advice and assistance, develop standards for research, stimulate, encourage and emphasize research, with particular emphasis on basic research, develop systems of communication between research workers and organizations, encourage close cooperation between the research, extension and education institutions of the country and conduct such other activities as have for their purpose the improvement of the research and the application of research results to the agricultural and related industries of the Nation;

Sec. 3. In carrying out its responsibilities under the Act, the Agency is authorized and directed:

(a) to furnish advice and assistance with respect to research work carried on in agricultural and related industries in this country and consult with research workers and technical personnel on research and administrative problems;

(b) to conduct an annual field examination of the research conducted and report the validity of expenditures made at each such field station, review expenditures for all research projects and the level of work and progress, to determine whether the work being conducted is acceptable and whether it merits continuation and analyze certified financial reports from each field establishment (experiment station, laboratory and research institution);

(c) to maintain central and regional inventories on all research projects and proposals;

(d) to approve applications for registration or patenting of new plant and animal materials and products and new agricultural machinery and equipment;

(e) to analyze and evaluate research proposals and existing research projects and programs, determine appropriateness, priority and usefulness and take necessary action to prevent duplication or overlapping of research activities, including coordination of research between individuals, projects and programs, and between research organizations of the Ministry of Agriculture and other agencies of the Government;

(f) to provide technical advice and assistance, develop standards of research, stimulate, encourage and emphasize

basic research, improve, develop and encourage communication, including improved systems thereof, between research workers at the various stations and institutions, and review and evaluate current research programs in different subject matter areas; carry on a program of training and instruction for development and improvement of research and supporting technical staff personnel, and otherwise conduct operations and measures to improve research quality and effectiveness;

(g) to act as the representative of the Ministry of Agriculture with relation to all foreign and domestic grants, in connection with agricultural research.

Sec. 4. The Agency shall be under the supervision of the Assistant Under Secretary for Agricultural Research Administration and Coordination and shall be headed by a General Director. The Agency shall be composed of the Office of the General Director, an Administrative Management Office, a Central Project Office, Offices of National Program Directors for plant science, animal science, utilization research, agricultural economics and marketing research, soil and water research, home economics, and agricultural engineering research, and an Office of Information, Library and Communications.

Sec. 5. The Agency is fully authorized to take such action as it, with the approval of the Assistant Under Secretary for Research, deems to be necessary to carry out the purpose of this Act.

Sec. 6. The General Directors of the Ministry of Agriculture, or their representatives, representatives from the agricultural, forestry and veterinary faculties of the universities and of other interested ministries shall be selected, with the approval of the appropriate university or ministry, by the Assistant Under Secretary for Research Administration and Coordination to serve as members of the National Research Council. The members shall select a chairman and vice-chairman. The General Director of the Agency shall be a member and shall serve as Executive Secretary.

The Research Council shall advise the Assistant Under Secretary for Research Administration and Coordination on policy and procedures relating to field research programs of the agencies under the jurisdiction of the Ministry of Agriculture, particularly on matters involving coordination of those of common interest to the Directorates under the Ministry of Agriculture, as well as to other research agencies and the agricultural, veterinary and forestry faculties of the Universities.

The Council will also consider research needs, proposed agricultural research programs, review research budgets and make appropriate recommendations.

Policies and procedures related to Agricultural Research Programs shall be based on decisions of the Assistant Under Secretary for Research Administration and Coordination after consideration of recommendations by the National Research Council.

Sec. 7. There is hereby established a National Research Advisory Committee composed of the several regional directors, one representative from each regional research advisory committee and representatives of the national agriculture, forestry and veterinary associations. The National Committee shall advise the Assistant Under Secretary for Research Administration and Coordination with regard to national research needs, and assist in obtaining cooperation of producers, farm organizations, industry groups, and other agencies in the furtherance of research, education and extension benefitting agriculture in the Nation.

There is also hereby established regional Research Advisory Committees in each region where a regional office is located, which shall consist of representatives of producers, processors and distributors of the major commodities in the region and to the extent deemed necessary, representatives of other agriculturally-related industries in the region, representatives of universities, the consuming public and other interested government organizations. The regional research director shall be a member and shall serve as executive secretary. Members of the committee shall be appointed by the Assistant Under Secretary for Research Administration and Coordination, based upon recommendations by the Regional Director.

Sec. 8. There are hereby established necessary regional research offices of the Agency, as determined by the Ministry of Agriculture, each to be under the supervision of a director and each to be composed of the office of the regional director, offices of regional research program directors, the office of statistical services, information office, library and office of management services. Through these regional research offices, the functions of the Agency shall be carried out as related to the agricultural experiment stations, laboratories and research institutions in each region.

Sec. 9. The Agency shall have national responsibility for approval of all agricultural and related research programs and projects. The appropriate General Directorates of the Ministry of Agriculture shall be responsible for the immediate supervision of the field establishments (experiment stations, laboratories, and research institutions), and for personnel, purchasing and supplies, salaries and other administrative services. The Office of the Assistant Under Secretary for Research Administration and Coordination, after consultation with the General Directors, will formulate the research budget, and may with the approval of the appropriate general director, transfer funds from one Directorate to another as may be necessary. With respect to the budget and financial transactions of the field establishments, the non-research budget and financial functions shall be under the appropriate general directors, and after the research budgets are approved, the control thereof shall be under the appropriate General Directorate of the Ministry of Agriculture. The field establishment shall, however, be under the supervision of the Agency for the preparation and conduct of research projects.

The regional research offices shall be directly responsible to the Agency, and shall prepare and approve agricultural research programs and shall review and approve projects for the region.

No funds shall be expended for research without the approval of the budget by the Assistant Secretary for Research Administration and Coordination or his authorized designee.

Sec. 10. Agricultural research conducted by members of university faculties and financed by the Ministry of Agriculture, shall be subject to coordination and approval of the Administration in the same manner as agricultural research conducted by field establishments of the Ministry of Agriculture. University faculty members may be authorized to conduct research at locations other than the university, on behalf of the Ministry, upon agreement with the university, and appropriate salary payments, shall be made by the Ministry of Agriculture. Research personnel employed by the Ministry of Agriculture may be authorized, at the request of any university, to engage in part-time teaching at such university, with appropriate salary payment by the university.

The Assistant Secretary for Research Administration and Coordination may enter into contracts and agreements with public and private persons, firms and organizations under such terms and conditions as he deems necessary for:

1. Research and related developmental work deems necessary for the effective prosecution of programs of the Ministry of Agriculture; and

2. Research by the Ministry of Agriculture for any other public or private person, firm or organization which it is equipped to perform and which it is requested to perform.

Sec. 11. The regional research offices shall be located on the campus of university sites within each of the several regions. The Agency shall assist in providing for more effective extension and education programs on agricultural and related subjects by coordinating and encouraging such programs.

Sec. 12. In order to carry out the purposes of this Act, the Assistant Under Secretary shall make provisions for liaison and interchange of information between field experiment stations and the Regional Research Offices and through such offices of the Central Office of the Agency, for liaison between field establishments and the General Directorates of the Ministry of Agriculture, between the Regional Research Offices and other agencies and field extension services and such other intra and inter ministerial liaisons as may be necessary for the purpose of strengthening cooperative research relationships and making more effective the total agricultural research effort. The Assistant Under Secretary shall also provide for liaison with agencies of other countries, governmental or private, which have interest in research programs in Turkey.

Sec. 13. The Minister of Agriculture is authorized and directed to issue such by-laws as he deems necessary to implement this Act, including but not restricted to by-laws relating to all aspects of the council and committee operations and tenure systems of cooperation and coordination, procedures for handling budgets, functions of officers and employees and all other necessary implementing by-laws.

PROPOSED ORGANIZATIONAL STRUCTURE
FOR THE AGRICULTURAL RESEARCH ADMINISTRATION
AND COORDINATION AGENCY IN THE MINISTRY OF AGRICULTURE

This recommended organizational pattern is designed to create a national and field structure to better administer and coordinate research throughout the Ministry of Agriculture. It envisages central research planning, policy formulation, and project and program review carried out in Ankara, with the actual research activity and supervision decentralized to the geographical regions, each supervised by a Regional Research Director.

The proposed organization would be superimposed on the existing Ministry organization with a minimum change in personnel, administration and organization. The new position of Assistant Under Secretary for Research Administration and Coordination would have wide authority in the field of research coordination and administration, but would not infringe on the other authorities now vested in other officers of the Ministry. Most of the research work would continue to be done at Field Experiment Stations, research institutions, universities and laboratories under the present general directorates and using existing scientific and technical personnel.

I. National Organization (in Ankara)

The Office of the Assistant Under Secretary for Research would formulate national agricultural research policy, plan and budget for research plans and programs at the national level, and assure maximum coordination and efficiency in agricultural research planning and activity. To assist in this mission, the Assistant Under Secretary would be advised and counseled by the National Research Council and the National Research Advisory Committee. The Research Council, by the inclusion in its membership of General Directors of the directorates engaged in research, would assure effective representation from each directorate having personnel, installations

and equipment engaged in research. These Directors, along with representatives from the agricultural, forestry, and veterinary faculties of the universities and other interested ministries would advise on formulation of the research budget, advise on research plans and policies, and expedite coordination of research between directorates. The National Research Advisory Committee, by its membership of Regional Directors and representatives from regional agricultural and industrial farms and factories, would bring to the Assistant Under Secretary the problems and recommendations of the farmer and producer.

Since the Assistant Under Secretary must be concerned primarily with formulation of national research policy and the overall coordination and improvement of research, there is created an Office of the General Director for Research. This Director would manage the research directorate under the general supervision of the Assistant Under Secretary. His rank and authority would be on a level with the other General Directors. The office would be responsible for carrying out the plans and policies on the agency. The General Director for Research would have an Office of Administrative Management to administer the budget, personnel, supply, publications, property, etc., for the agency, and would assist in the solution of organizational problems.

The Information and Communications Office would coordinate with the Extension Service and other agencies to publish and disseminate research information, assist in the design and operation of communications systems and procedures, and organize and maintain library facilities and services for the national office and the field offices. The General Director for Research would maintain a Central Project Office which would serve as a library and index of all agricultural research projects, existing and proposed, of interest to the Ministry of Agriculture. This office would use its facilities for advice, analysis and counsel concerning research activities for the Assistant Under Secretary for Research and the Agency, with special regard to research coordination and progress.

As members of his program staff, the General Director for Research would have a National Research Coordination Staff and Program Directors in each of the scientific areas, i.e., (plant science, animal science, agricultural economics and marketing, soil and water, utilization, agricultural engineering, and home economics). Each of these Directors would strive in his particular area to implement national research program coordination and progress. They would review projects and

program proposals in their specialty, review reports, conduct field reviews, and serve as expert counsel for the Assistant Under Secretary and General Director for Research.

II. Field Organization

The country would be divided into regions based on crops, climate and topographic similarities for research activity. Each region would have a Regional Research Director who would report to the National Research General Director in Ankara. The Regional Director would be responsible within his area for supervising all research programs supported by the Ministry. He would coordinate with the General Directors in supporting the research workers at the field locations, laboratories, research institutions and universities in his region. He would consolidate and review reports, budget estimates, etc., from his region to forward to Ankara. The Regional Director's office would include a Regional Administrative Management Office to carry out the budget, personnel, clerical, supply and other activities required. This office would maintain continuing cooperation with the General Directorates to assure proper supply, finance, personnel and other support for the research work by the General Directorates.

Assisting the Regional Research Director would be the Regional Research Advisory Committee. This Committee would be composed of leaders in agricultural, industrial, and agricultural research in the region. They would advise and counsel the Regional Director on problems and recommendations of the farmer and producer. From their membership would be drawn the members of the National Research Advisory Committee, to meet in Ankara annually to coordinate national and regional progress and problem areas. The Regional Director's staff would also include a Statistics Office and an Information and Library Office. The Statistics Office would assist project leaders and research workers regarding research methods and procedures, would analyze complex data and research results, and would provide guidance and training in methods of statistics application and experimental design. The Regional Information and Library Office would coordinate with the Regional Extension Service and other regional activities to publish and disseminate research information, and maintain research library facilities and services for the region, in coordination with the Ankara National Research Library Office.

The Regional Director would be assisted by a Regional Research Coordination Staff consisting of Regional Program Directors in each pertinent scientific area. Each of these Directors would strive in his particular area to implement regional research program coordination and progress. They would review regional projects and program proposals in their specialty, review reports, conduct field reviews, and serve as expert counsel for the Regional Director and field establishments.

The Field Establishments (Experiment Stations, Research Institutions, and Laboratories) would remain under the operational control of the General Directorates presently responsible for their operation. Only in research activities would the new research agency have interest. This would consist of the supervision and guidance of research activities by the Regional Research Director with regard to approval of projects, evaluation of progress, coordination of research, and coordination of personnel, funds, supplies and facilities with the other General Directorates.

tific adequacy and compliance with Ministry policies. Evaluates current and contemplated research on the basis of urgency and agricultural and economic needs.

NATIONAL PROGRAM DIRECTOR FOR UTILIZATION
RESEARCH AND DEVELOPMENT

PLANNING AND COORDINATION. Participates in the coordination of utilization research conducted by field research establishments with similar research conducted by other agencies and ministries in such areas as research and development on the utilization of agricultural commodities, residues, and by-products and the development of new or improved foods, drugs, fabrics, industrial chemicals, and other products therefrom.

EXAMINATION AND PROJECT APPROVAL. Reviews annually, with regional directors and research specialists, all research activities and expenditures related to utilization research and development which are conducted at field establishments and financed with government research funds. Based on such review, recommends to the Assistant Under Secretary for Research that such establishments are entitled to receive additional funds. Reviews and recommends approval of each research project to insure scientific adequacy and compliance with Ministry policies. Evaluates current and contemplated research on the basis of urgency and agricultural and economic need.

NOTE FUNCTIONS COMMON TO ALL NATIONAL
PROGRAM DIRECTORS OF PARTICULAR
SCIENTIFIC AREAS:

REPORTS. Participates in the preparation of annual reports on the research activities of the field research establishments and such other materials as contribute to research planning and coordination.

TECHNICAL ADVICE. Acts as advisor and consultant on research programs of national significance in the agricultural field and assists in the development of specific phases of these programs.

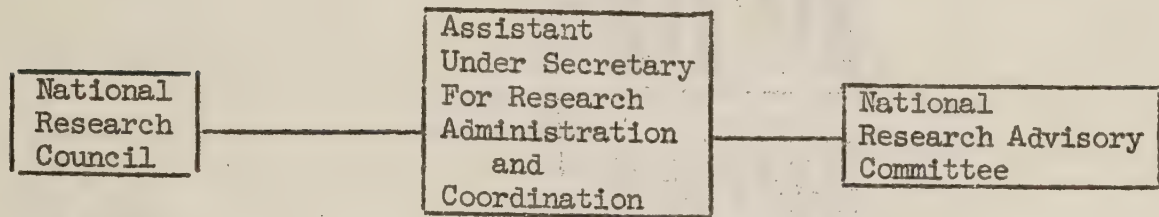
RESEARCH STANDARDS. Develops standards for agricultural research and participates in the formulation of plans and methods for such research.

EASTERN
REGION

SOUTHEASTERN
REGION

BLACK SEA
REGION

NATIONAL ORGANIZATION FOR AGRICULTURAL RESEARCH



(Coordination & Planning Only)

Gen'l Direct-
orates of
Agriculture
Concerned w/
Research

Director
General of
National
Research
Programs

Administrative
Management Office

Central Projects
Office

Information and
Communications
Office

NATIONAL RESEARCH COORDINATION STAFF

National
Program
Director
For
Animal
Science
Research

National
Program
Director
For
Plant
Science
Research

National
Program
Director
For
Agric.
Econ. &
Market'g
Research

National
Program
Director
For
Util. Res.
& Dev't.

National
Program
Director
For
Agric.
Engineer-
ing
Research

National
Program
Director
For
Soil &
Water
Research

National
Program
Director
For
Home
Economics
Research

Thrace-
Marmara
Region

Black
Sea
Region

Mediterra-
nean
Region

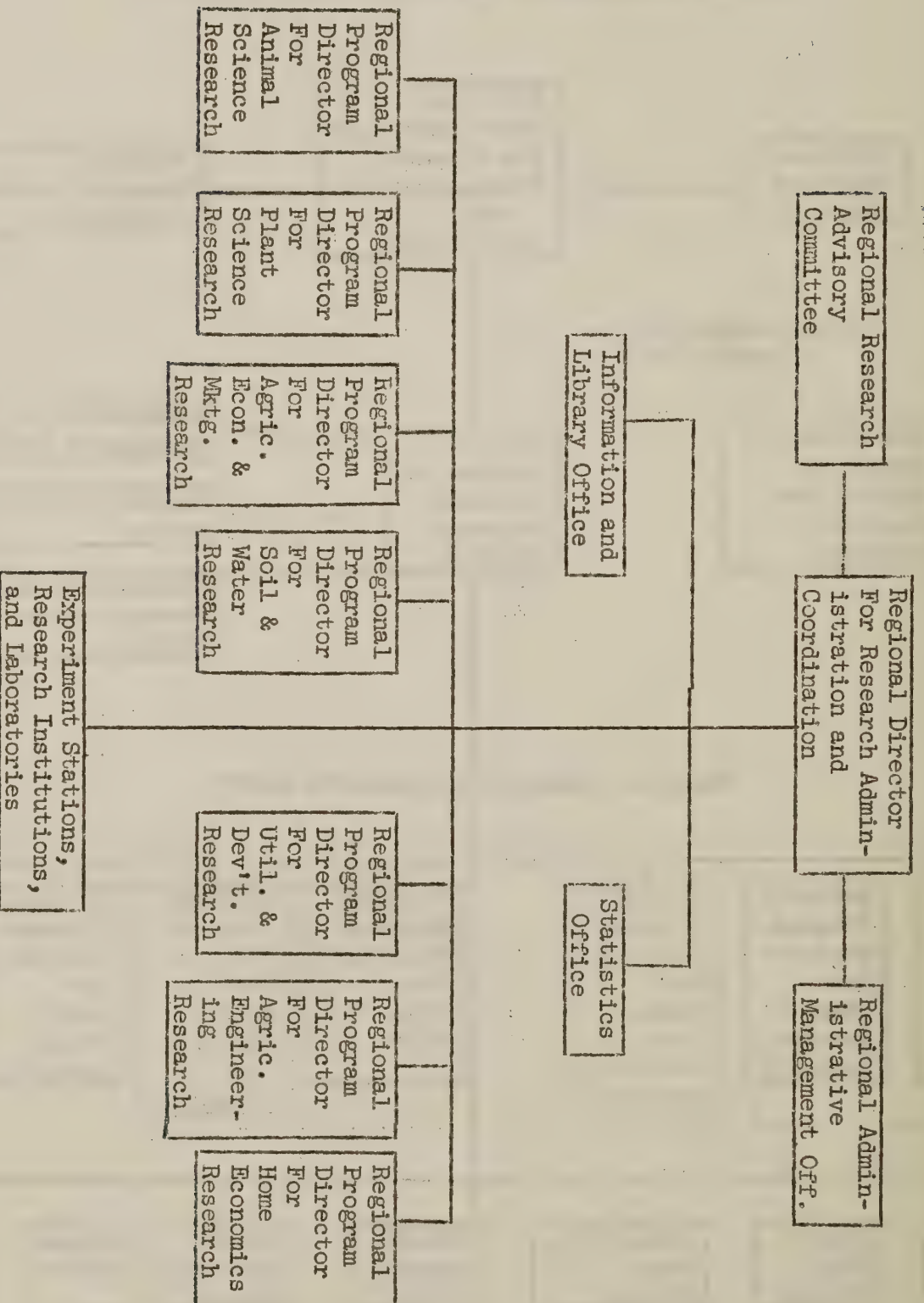
Central
Anatolia
Region

South-
Eastern
Region

Aegean
Region

Eastern
Region

REGIONAL ORGANIZATION FOR AGRICULTURAL RESEARCH



REFERENCES

1. End of Trip Report - Rifat Gerek - July 7, 1959
2. Final Recommendations - Wilbur V. Harlan -
Agricultural Research Advisor - February 3, 1960
3. E. N. Holmgren - Agricultural Extension in Turkey -
April 25, 1960
4. Administration of Agricultural Research in Turkey -
Charles G. Grey - November 1960
5. U. S. Government Organizational Manual 1962-63
6. State Agricultural Experiment Stations - A History of
Research Policy and Procedure, M.P. 904, Cooperative
State Experiment Station Service, USDA - 1962
7. Land Grant Colleges and Universities 1862-1962 -
U. S. Department of Health, Education and Welfare
8. The Research Program of USDA - M.P. 779 - USDA
9. Federal Legislation, Rulings and Regulations Affecting
The State Agricultural Experiment Stations - M.P. 515 -
USDA
10. After A Hundred Years, The Yearbook of Agriculture 1962 -
The United States Department of Agriculture (1962)
11. 1961-62 Workers in Subjects Pertaining to Agriculture
in Land-Grant Colleges and Experiment Stations -
Cooperative State Experiment Station Service, USDA,
Washington D. C., May 1962
12. An Appraisal of Agricultural Research and the Road Ahead.
Agricultural Information Bulletin No. 221 - Agricultural
Research Service, USDA - 1960
13. Questions and Answers on Agricultural Research in the
U. S. Department of Agriculture and The State Agri-
cultural Experiment Stations - Agricultural Informa-
tion Bulletin No. 224 - U. S. Department of Agriculture,
Agricultural Research Service - 1960

14. Proceedings of the Seventh Annual Staff Conference of the Virginia Agricultural Experiment Station - Experiment Station Bulletin 536 - Virginia Polytechnic Institute - Centennial Publication No. 3
15. Funds for Research at State Agricultural Experiment Stations - 1961 - Cooperative State Experiment Station Service - United States Department of Agriculture - CSESS-23-12 - March 1962
16. Thoughts on Planning and Conducting Research - Wilson B. Bell - Paper Presented at the First Annual Meeting of the Virginia Agricultural Experiment Station - January 4, 1956
17. Organization of Research - Wilson B. Bell - Paper Presented at the Third Annual Meeting of the Virginia Agricultural Experiment Station - December 17, 1957
18. Review of Research - USDA, ARS, SES Manual -Ch.3, Revision 11/55
19. Research Programs - USDA, ARS, SES Manual -Ch.2, Revision 11/60
20. Manual of Procedures for Cooperative Regional Research - USDA, ARS, Washington D. C. - April 1958
21. Administrative Handbook - Virginia Agricultural Extension Service - Virginia Polytechnic Institute, Blacksburg, Virginia - 1958
22. Bulletin of The University of Nebraska, College of Agriculture - Series LXVII - April 11, 1962 - Number 13
23. 75th Annual Report of the Nebraska Agricultural Experiment Station, by E. F. Frolik - H. H. Kramer, Lincoln, Nebraska - July 1962
24. University of Florida, Gainesville, Florida, Agricultural Experiment Stations - Annual Report for Fiscal Year Ending June 30, 1960
25. The Institute of Agriculture University of Minnesota

APPENDIX

LIST OF PERSONNEL IN USDA AND THE LAND GRANT COLLEGES
WITH WHOM CONTACTS WERE HAD DURING THE STUDY PROGRAM

C. G. Grey, CSESS-USDA, Administration
C. F. Sierk, CSESS-USDA, Organization
D. L. Espe, CSESS-USDA, Project Outline
M. J. Burris, CSESS-USDA, Project Outline
H. A. Dunn, CSESS-USDA, Project Files
N. F. Farris, CSESS-USDA, Regional Research
B. F. Beacher, CSESS-USDA, Regional Research
Georgian Adams, CSESS-USDA, Research in Human Nutrition
H. J. Souders, CSESS-USDA, Research in Human Nutrition
H. F. Fulkerson, CSESS-USDA, Regional Research Project
J. Turnbull, CSESS-USDA, Station Review
Earl Boyd, CSESS-USDA, Station Review
W. E. Shaklee, CSESS-USDA, Station Review
A. H. Vanlandingham, Director of Station of West Virginia,
Administration
W. M. Fifield, Provost for Agriculture, Florida, Coordination
J. R. Beckenbach, Director of Agricultural Experiment Station,
Administration
J. W. Sites, Associate Director of Agricultural Experiment Station,
Research Project
F. H. Hull, Agricultural Experiment Station, Florida, Administration,
Department of Agronomy
E. S. Horner, Agricultural Experiment Station, Florida, Corn
Breeding
A. E. Brandt, Agricultural Experiment Station, Florida, Field Trials
E. V. Smith, Dean of School of Agriculture, Alabama, Coordination
A. W. Cooper, National Tillage Laboratory, ARS, Administration
and Research Projects
S. P. Williams, ARS-USDA, Administration Services
E. Stephens, ARS-USDA, Budget and Finance
C. N. Lane, ARS-USDA, Central Project Files
W. D. Maclay, ARS-USDA, Administration of Utilization Research
P. A. Wells, Eastern Utilization Laboratory, ARS, Administration
V. G. Sprague, U. S. Regional Research Laboratory, Breeding
of Alfalfa
H. R. Fortmann, Assistant Director of Agricultural Experiment
Station, Pennsylvania, Administration
F. C. Snyder, Pennsylvania University, Short Courses
H. W. Marston, ARS-USDA, PL 480
G. B. Edwards, ARS-USDA, Personnel Division

C. A. Logan, ARS-USDA, Organization of Agricultural Research Center
H. R. Thomas, ARS-USDA, Administration of Crops Research Division
W. Q. Loegering, ARS-USDA, Rust Studies
B. D. Joy, ARS-USDA, Research Advisory Committees
J. F. Greeneiser, Office of Information, USDA, Training Program
E. C. Elting, ARS-USDA, Coordination in Agricultural Research Agencies
S. P. Lejko, ARS-USDA, Special Assignments
E. Mostow, General Counsel, USDA, Legal Problems
H. J. Sloan, Director of Agricultural Experiment Station of Minnesota, Administration
W. M. Meyers, Agricultural Experiment Station of Minnesota, Seed Certification
Helen Hart, Agricultural Experiment Station of Minnesota, Rust Studies
D. C. Smith, Agricultural Experiment Station of Wisconsin, Research in Agriculture
D. C. Arny, Agricultural Experiment Station of Wisconsin, Disease Resistance
N. P. Neal, Agricultural Experiment Station of Wisconsin, Corn Breeding
H. L. Shands, Agricultural Experiment Station of Wisconsin, Breeding of Small Grains
R. G. Shands, Agricultural Experiment Station of Wisconsin, Breeding of Small Grains
H. N. Young, Director of Agricultural Experiment Station of Virginia, Responsibilities of Administrator
W. B. Bell, Associate Director of Agricultural Experiment Station of Virginia, Administration
H. M. Love, Agricultural Experiment Station of Virginia, Administration Department of Economics
P. H. Massey, Agricultural Experiment Station of Virginia, Research in Horticulture
S. A. Wingard, Agricultural Experiment Station of Virginia, Administration Department of Plant Pathology
J. W. Crews, Agricultural Experiment Station of Virginia, Tobacco Breeding
C. Y. Cramer, Agricultural Experiment Station of Virginia, Statistical Services
F. Crowne, ARS-USDA, Management Research
W. R. Langford, Southern Regional Plant Introduction Station, ARS, Organization
W. E. Whitehouse, ARS-USDA, Plant Introductions
H. L. Hyland, ARS-USDA, Documenting of Plant Introduction
E. James, Seed Storage Laboratory, ARS, Seed Storage

H. H. Kramer, Director of Agricultural Experiment Station of
Nebraska, Administration
D. G. Hanway, Agricultural Experiment Station of Nebraska,
Administration Department of Agronomy
E. C. Conard, Agricultural Experiment Station of Nebraska,
Pasture Management
W. R. Kehr, Agricultural Experiment Station of Nebraska,
Breeding of Alfalfa
J. W. Schmidt, Agricultural Experiment Station of Nebraska,
Breeding of Winter Wheat
V. A. Johnson, Agricultural Experiment Station of Nebraska,
Breeding of Winter Wheat
O. J. Webster, Agricultural Experiment Station of Nebraska,
Breeding of Sorghum
J. H. Lonnguist, Agricultural Experiment Station of Nebraska,
Corn Breeding
J. B. Rogers, Soil Conservation Service, Organization
E. P. Reagan, Plant Quarantine Division, ARS
R. G. Oakley, Plant Quarantine Division, ARS
C. A. Smith, Animal Inspection and Quarantine Division, ARS
F. L. Herchenroeder, Animal Disease Eradication Division, ARS
J. C. de Holl, Meat Inspection Division, ARS
P. L. Hauser, Economic Research Service
J. L. Phillips, Agricultural Marketing Service
Richard D. Chumney, Commissioner of Agriculture, Virginia
C. O. Erlanson, New Crops Research Branch, ARS
Harry N. Weigandt, Farmers Cooperative Service
J. Kenneth Samuels, Marketing Division, AMS
M. W. Parker, Crops Research Division, ARS
H. R. Thomas, Crops Research Division, ARS
A. H. Maunder, Federal Extension Service
L. P. McCann, ARS

